DIRECT TESTIMONY

OF

JOSEPH M. LYNCH

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2016-223-E

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION WITH SOUTH CAROLINA ELECTRIC & GAS COMPANY ("SCE&G" OR THE "COMPANY").

A. My name is Joseph M. Lynch and my business address is 220 Operation Way, Cayce, South Carolina. My current position with the Company is Manager of Resource Planning.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I graduated from St. Francis College in Brooklyn, New York, with a Bachelor of Science degree in mathematics. From the University of South Carolina, I received a Master of Arts degree in mathematics, a Master of Business Administration degree, and a Ph.D. in management science and finance. I was employed by SCE&G as a Senior Budget Analyst in 1977 to develop econometric models to forecast electric sales and revenue. In 1980, I was promoted to Supervisor of the Load Research Department. In 1985, I became Supervisor of

Regulatory Research where I was responsible for load research and electric rate design. In 1989, I became Supervisor of Forecasting and Regulatory Research, and, in 1991, I was promoted to my current position of Manager of Resource Planning.

Q. WHAT ARE YOUR CURRENT DUTIES AS MANAGER OF RESOURCE PLANNING?

A. As Manager of Resource Planning, I am responsible for producing SCE&G's forecast of energy, peak demand, and revenue; for developing the Company's generation expansion plans; and for overseeing the Company's load research program.

Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA ("COMMISSION") PREVIOUSLY?

A. Yes. I have previously testified on a number of occasions before this Commission.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present the results of two studies of the cost to construct the V.C. Summer Units 2 and 3 (the "Units") under the Engineering, Procurement, and Construction Agreement ("EPC Contract") as amended by the October 27, 2015 Amendment ("Amendment"). The first study, attached as Exhibit No. __ (JML-1), is a sensitivity study that analyzes the impact of SCE&G's option to transfer the majority of the remaining EPC Contract cost to the Fixed Price category (the "Fixed Price" option) as provided by the Amendment. This study compares the cost-to-complete construction of the Units under several labor cost scenarios relative to the cost of the Fixed Price option. The second study, attached as Exhibit No. __ (JML-2), is an economic study comparing the impact on revenue requirements of continuing construction of the Units as opposed to terminating the project and building natural gas combined-cycle units instead.

<u>THE SENSITIVITY STUDY</u>

Q. WHAT IS THE STRUCTURE OF THE SENSITIVITY STUDY?

A. The sensitivity study analyzes the impact of labor costs on the cost-to-complete the Units. There are two primary components to labor costs: 1) the labor cost per hour, and 2) the number of hours worked (specifically in this case, the number of hours to complete construction of the Units).

Q. WHAT WAS THE LABOR COST PER HOUR USED IN THE SENSITIVITY STUDY?

A. The sensitivity study uses the labor cost per hour as of December 2015 calculated as an average in the categories of all direct craft workers, all indirect craft workers, and all field non-manual workers. SCE&G projected these three labor rates to increase by 2.9% per year over the remainder of the construction period. This scenario is the "base case" or "2.9%" scenario. The 2.9% growth rate was chosen because that is the 5-year compound growth rate of the Handy-Whitman cost index in the "All Steam & Nuclear" category for the South Atlantic.

Also, by coincidence, it is the 5-year growth rate in construction labor costs projected by our economic forecasting firm, IHS Global Insight, Inc. ("IHS"), over the period 2016-2020 averaged over several categories of labor, again, for the South Atlantic region of the country.

Q. HOW MANY DIFFERENT SCENARIOS DID SCE&G ANALYZE IN THE SENSITIVITY STUDY?

A. Exhibit No. __ (JML-1) reflects the results of my sensitivity study and shows that four different labor growth rates for the completion of construction of the Units from the current time to the Guaranteed Substantial Completion Dates ("GSCDs") under the Amendment were analyzed. The four scenarios are:

- The "no growth" or "0%" scenario represents a labor growth rate of 0%.
- The "base case" or "2.9%" scenario represents a labor growth rate of 2.9%.
- The "medium growth" or "5.0%"scenario represents a labor growth rate of 5.0%.
- The "high growth" or "7.0%"scenario represents a labor growth rate of 7.0%.

Q. WHICH LABOR RATE SCENARIO DOES SCE&G BELIEVE IS THE MOST LIKELY TO OCCUR?

A. While there is much uncertainty in projecting future labor rates, SCE&G believes the no growth scenario representing no growth in labor rates to be unrealistically optimistic. On the other extreme, the high growth scenario represents a strong growth in labor rates that is possible but similarly unlikely.

The base case scenario, corresponding to a 2.9% growth in labor rates, represents a small premium over inflation which would be reasonable under most situations. However, considering the skilled labor force required for this project and the need for night time work hours, a faster growth rate is likely. Consequently, SCE&G believes the most likely scenario for future labor rates is between the base case (2.9%) and medium growth (5.0%) scenarios.

Q. HOW DID THE SENSITIVITY STUDY REFLECT VARIATIONS IN THE NUMBER OF HOURS REQUIRED TO COMPLETE CONSTRUCTION OF THE UNITS?

A. The productivity factor ("PF") was the evaluation measure used in the sensitivity study to reflect variations in the number of hours required to complete construction of the Units. SCE&G defined the PF as the ratio of the number of actual direct craft hours worked to complete a project compared to the number of hours budgeted for that work. Six PF scenarios were studied: 1.00, 1.15, 1.25, 1.50, 1.75, and 2.00.

Q. WHAT IS THE SIGNIFICANCE OF THE PF?

A. The PF represents the efficiency with which direct craft laborers are working to complete tasks. A PF of 1.00 means that the actual number of hours required for a task was the exact number of hours budgeted for that task. For example, if a certain welding job was budgeted to take 4.0 hours, then a PF of 1.25 would mean that the welding job actually took 5.0 hours to complete (4.0 hours × 1.25 PF = 5.0 hours).

Q. SINCE THE PF APPLIES TO DIRECT CRAFT LABOR HOURS ONLY, HOW DOES THE SENSITIVITY STUDY ACCOUNT FOR INDIRECT CRAFT LABOR COSTS AND FIELD NON-MANUAL LABOR COSTS?

A. Indirect craft labor supports direct craft labor by providing such things as worker training, safety, warehouse staffing, and facilities maintenance. In order for construction to be completed by the GSCDs, SCE&G estimates that approximately 0.66 hours of indirect craft labor is required to support each hour of direct craft labor. While the actual indirect-to-direct ratio may vary from 0.66, SCE&G does not believe any variations would be significant and has kept this ratio constant for the sensitivity study. Field non-manual labor represents the cost of field engineers, quality assurance and control, administrative support, and related non-manual labor. In order for construction to be completed by the GSCDs, SCE&G estimates that approximately 0.74 hours of field non-manual labor is required to support each hour of direct craft labor. Thus, as was done with indirect craft labor, the ratio of field non-manual labor-to-direct craft labor is fixed at 0.74 for the study. Consequently, in the sensitivity study as direct craft labor hours vary so does the number of indirect labor hours and field non-manual hours as well as the associated cost for those categories of labor.

Q. ARE YOU BEING CONSERVATIVE BY SETTING THE RATIO OF INDIRECT LABOR HOURS TO DIRECT LABOR HOURS AT 0.66 AND THE RATIO FOR FIELD NON-MANUAL LABOR AT 0.74?

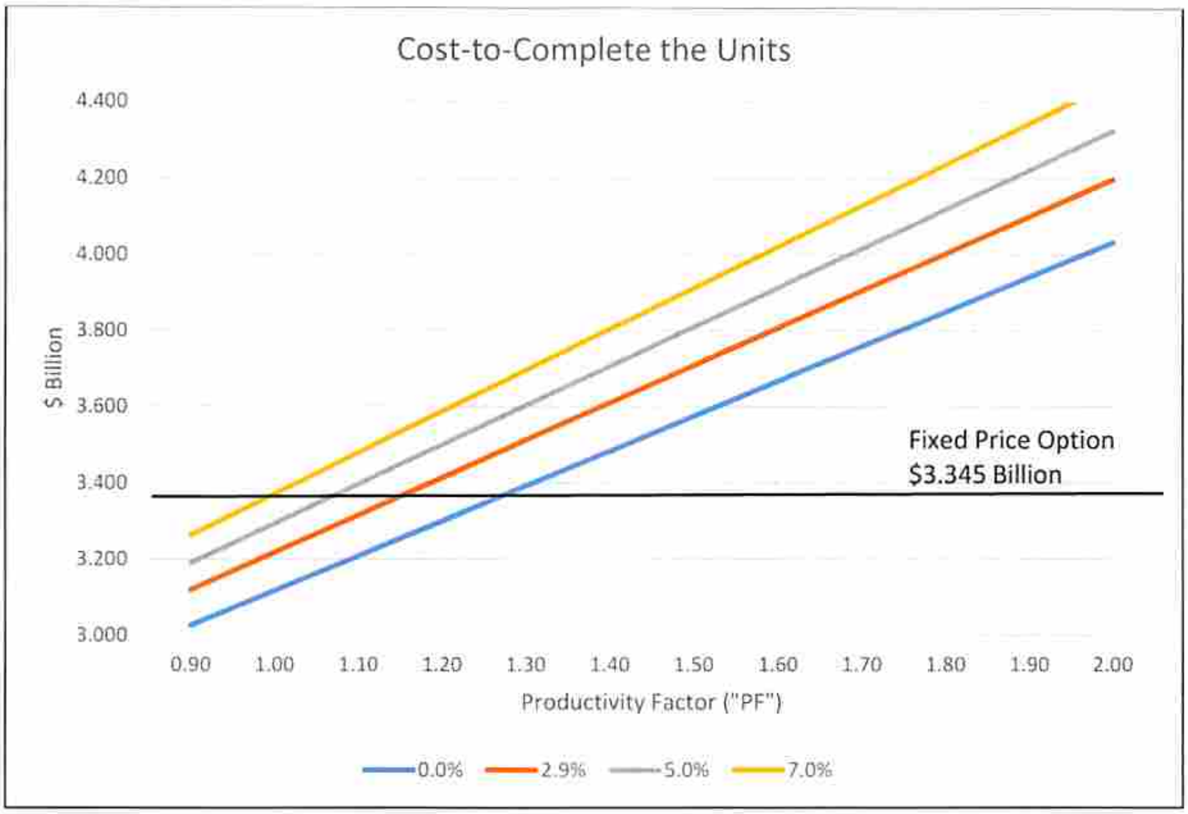
A. Yes. These are very conservative assumptions in the sense that they are low compared to historical experience with the project. If these ratios were higher, the sensitivity study would reflect that the Fixed Price option would be even more attractive. The historical average ratio of indirect-to-direct hours is 1.21 and of field non-manual-to-direct hours is 1.22. The sensitivity study assumes that Westinghouse Electric Company, LLC ("Westinghouse") and Fluor Corporation ("Fluor") will be able to significantly reduce the need for non-direct labor hours. If they are unable to do so, then the Fixed Price option becomes even more valuable to SCE&G and its customers.

Q. WHICH PF SCENARIO DOES SCE&G BELIEVE IS THE MOST LIKELY TO OCCUR?

A. The cumulative PF for this project through December 2015 is approximately 1.75. With the reorganization of the Consortium and Fluor coming onboard, there is ongoing effort to improve the PF of the project. However, SCE&G believes the most likely PF range will be between 1.50 and 2.00.

Q. CAN THE COST-TO-COMPLETE THE UNITS UNDER THE DIFFERENT SCENARIOS BE SHOWN GRAPHICALLY?

A. Yes, it can. The following graph depicts the relationship between the cost-to-complete on the vertical axis and the PF value on the horizontal axis with a reference line being added to show the cost of the Fixed Price option.



Q. WHAT CAN BE CONCLUDED FROM THIS GRAPH?

A. By noting where the reference line for the cost of the Fixed Price option crosses each of the cost-to-complete lines, the breakeven value for the PF can be observed. For example, under the 2.9% labor cost rate scenario, the cost-to-complete is represented by the second line up from the bottom (the red line). The breakeven PF value under this scenario is 1.130. This means that if Westinghouse can achieve a PF value less than 1.130 and maintain the labor rates in the base case scenario, then the Fixed Price option will increase cost to SCE&G's customers beyond the fixed price. On the other hand if the PF value is greater than 1.130, then the Fixed Price option lowers costs to SCE&G customers. The breakeven PF values for the 0%, 2.9%, 5.0%, and 7.0% scenarios are approximately 1.248, 1.130, 1.049, and 0.976 respectively.

Q. WHAT DO YOU CONCLUDE FROM THE SENSITIVITY STUDY?

A. Table A of the sensitivity study contains the results of the sensitivity study. For each combination of PF and labor cost growth rate, the table shows the cost-to-complete the Units as a percentage change to the Fixed Price option. When focusing on the most likely range of 2.9% to 5.0% in labor rate growth rates and the PF falling between 1.50 and 2.00, SCE&G estimates that the cost-to-complete the Units will be between 10.9% and 29.3% higher than the Fixed Price option. While Westinghouse may be able to make significant improvements over past performance, SCE&G believes it is in the best interest of its customers to choose the Fixed Price option and remove the price uncertainty that exists without it.

THE ECONOMIC STUDY

Q. PLEASE DESCRIBE THE METHODOLOGY USED IN THE ECONOMIC STUDY.

A. The economic study uses the same methodology and structure as the similar study presented to the Commission in 2015 in Docket No. 2015-103-E. The study is based on modeling techniques that are widely accepted in the utility industry to determine the relative cost and value of alternative approaches to meeting customers' electricity needs. The models used in the study include information about system loads, load shapes (the number of hours each year that specific load levels are reached), the available units, the ramp rates of units (the speed at which units can be brought to various levels of production), the availability factors of the units (how often units are off-line or have mechanical or environmental limits on their generating capacity), the fuel costs of units (including environmental costs of burning fuel and disposing of ash or other fuel wastes), the fuel efficiency of units (how much fuel cost is incurred per megawatt (MW) of energy produced), and the capital and operating costs of any new units including depreciation, abandonment costs, salvage cost, production tax credits and other capital related costs or benefits. Each scenario includes a different set of assumptions about one or more variables. In this case, the models dispatched the system year-by-year for 40 years to determine the relative cost to customers under each scenario considered.

Q. **WHAT SCENARIOS WERE MODELED?**

A. The two alternatives—completing construction of the Units compared to terminating construction of the Units and replacing them with combined-cycle gas plants—were analyzed under 27 scenarios reflecting different assumptions concerning natural gas prices, carbon dioxide ("CO_2"), emissions costs, and future load growth on our system.

Q. WHAT NATURAL GAS PRICE SCENARIOS WERE MODELED?

A. The three natural gas price scenarios modeled were the Company's base case forecast of future natural gas prices, a 50% higher gas price and a 100% higher gas price forecast.

Q. WHY WERE THESE THREE NATURAL GAS PRICE SCENARIOS CHOSEN?

A. The base case is a forecast that the Company compiles using reported New York Mercantile Exchange ("NYMEX") gas contracts. Future prices for contracts for three years are used. Beginning in year four, the forecast escalates the NYMEX price using escalation rate forecasts provided by IHS.

SCE&G uses the base case forecast as a starting point in modeling because it is simple, objective, and less subject to bias from subjective considerations. But this is also a limitation. The base case gas price may ignore important factors that require subjective judgment and are not reflected in current NYMEX prices or in escalation forecasts. In short, fossil fuel prices, especially natural gas prices, are notoriously difficult to forecast with confidence. For this reason, SCE&G usually conducts sensitivity analyses particularly with respect to future natural gas prices. Therefore, in addition to the base case gas price forecast, two other price scenarios were developed: one with 50% higher prices than the base case and a second with 100% higher prices. Higher gas prices seem very reasonable when you consider ongoing and future changes that will put upward pressure on natural gas prices. The most obvious of these changes include: 1) significantly increased demand in the power generation sector caused by the retirement of coal plants due to the Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standards, or MATS, regulations and the Clean Power Plan, as well as the practical inability to add coal capacity in the future; 2) the opening of the domestic gas market to higher world prices through liquefied natural gas, or LNG, exportation; 3) the increasing regulatory scrutiny of "fracking" from an environmental point of view which will tend to increase the cost of production and reduce the supply of gas; and 4) the fact that burning natural gas emits CO_2 into the atmosphere and that the gas industry will likely come under environmental regulations similar to those crippling the coal industry. The Energy Information Administration ("EIA") in the early release of their 2016 Annual Energy Outlook provides another scenario of forecasted natural gas prices and their forecast is shown in the study as a point of comparison. The EIA forecast closely approximates SCE&G's 50% higher gas price forecast.

Q. WHAT CO_2 PRICE SCENARIOS WERE MODELED?

A. The three variations of CO_2 emission costs were $0, $15, and $30 per ton starting in 2025 and escalating at 5% per year. While the EPA's Clean Power Plan is currently subject to a judicial stay, for the purposes of this study, SCE&G assumed that the EPA's Clean Power Plan goes into effect as written. Under the scenario of completing the Units, SCE&G assumes that the State of South Carolina chooses the "rate-based" compliance option in which each electric generating unit would be required to meet an emission rate target. Under a rate-based compliance plan the new nuclear units would count towards compliance and would generate sufficient emission rate credits such that SCE&G would not be required to incur any additional CO_2 compliance costs under the Clean Power Plan. Therefore the cost of CO_2 emissions to SCE&G and its customers will be zero.

If SCE&G does not complete the Units but instead builds natural gas combined-cycle plants, then the Company assumes the State will choose the "mass-based" compliance option where an electric generating unit would be allocated a CO_2 emission cap. Under this option, SCE&G will be subject to a CO_2 emission limit and will incur costs to comply. It is uncertain what the cost of CO_2 emissions will be in the future which is the reason for studying several levels of cost.

If SCE&G does not complete the Units but instead builds natural gas combined-cycle plants, and if the State should select the rate-based compliance option (which SCE&G believes to be unlikely in this scenario), then SCE&G and its customers will be subject to CO_2 emission costs. These costs also will be substantially greater than they would have been if the State had selected the mass-based compliance option instead.

Q. WHAT LOAD GROWTH SCENARIOS WERE MODELED?

A. The three load levels considered were the Company's base case load forecast and then a low and high forecast which adjusted the forecasted load plus and minus 5%.

Q. WHAT IS THE VALUE OF INCLUDING THESE DIFFERENT LOAD GROWTH SCENARIOS?

A. The load growth scenarios show that varying load up or down 5% does not significantly affect the value of the scenarios. This is relevant because including more distributed energy resources (solar generation) or more energy efficiency gains has the same effect as reducing load growth. Our base case forecast already includes the impact of currently mandated distributed energy resources and currently planned energy efficiency investments. There may be other important reasons to increase investment in these resources. But the study shows that increasing these resources by a substantial amount does not change the value of the Units to customers in a meaningful way.

Q. WHAT WERE THE RESULTS OF THE STUDY?

A. The study shows that in all 27 scenarios, including base gas price and $0 carbon costs, the effect of cancelling the Units and switching to natural gas generation increases the costs to our customers by a significant amount. The most reasonable scenario is gas prices at base cost plus 50% and CO_2 emissions at $15 per ton. In that scenario, cancelling the Units and switching to natural gas would increase the cost to SCE&G's customers for electric service by $374 million per year on average over the 40-year planning horizon.

Q. HAVE YOU ANALYZED THE SENSITIVITY OF RESULTS TO AN INCREASE IN THE COST-TO-COMPLETE THE NUCLEAR UNITS?

A. Yes. My analysis is reflected in Exhibit No. ___ (JML-3), which shows, based on current circumstances, the amount nuclear construction costs would need to increase in order to achieve a breakeven point between completing the nuclear project and cancelling it. This study includes the updates to capital costs that are before the Commission in this proceeding. Thus, the total cost of completing the nuclear plants is assumed to be about $7.67 billion (SCE&G's share of the total cost). Exhibit No. ___ (JML-3) shows how much this cost would have to increase to make the incremental revenue requirements of cancelling the nuclear project equal to those of completing it. The most reasonable scenario reflects base gas cost plus 50% and $15 per ton CO_2. In that scenario, the future capital costs of the Units would have to increase by about $3.83 billion above current forecasts to overcome the benefit of $374 million per year from completing the Units at their current cost. Stated differently, from where we are today, the total construction cost would have to increase from $7.67 billion to about $11.50 billion to reach the breakeven point between the alternatives.

CONCLUSION

Q. BASED UPON THE STUDIES AND ANALYSES YOU HAVE CONDUCTED IN CONNECTION WITH THIS PROCEEDING, WHAT IS YOUR EXPERT OPINION AS TO WHETHER SCE&G SHOULD SELECT THE FIXED PRICE OPTION?

A. It is my expert opinion that the Company should exercise the Fixed Price option. As reflected in Exhibit No. ___ (JML-1), labor costs will be the principal driver of changes in what Westinghouse could charge SCE&G to complete the project. Given the most likely range of potential variables for labor productivity and labor price rates, the cost to SCE&G and its customers to complete the Units if the Fixed Price option is not chosen will be substantially greater than the Fixed Price option. Rather, the Fixed Price option will save customers between 10.9% and 29.3% of the cost of the project. Accordingly, it is my opinion that the Fixed Price option is reasonable and prudent and that the Company should select this option as being in the best interest of SCE&G and its customers.

Q. WHAT IS YOUR EXPERT OPINION AS TO WHETHER THE COMPANY SHOULD TERMINATE CONSTRUCTION OF THE UNITS AND PURSUE A NATURAL GAS STRATEGY TO MEET FUTURE GENERATION NEEDS?

A. It is my expert opinion that abandoning construction of the Units at this time and pursuing a natural gas generation strategy for base load generation needs would be imprudent and would result in significantly increased costs to customers.

The study presented in Exhibit No. ___ (JML-2) demonstrates that the Company's nuclear strategy remains the most prudent and lowest cost strategy designed to meet our customers' needs for base load generation in the future. In fact, based upon my analysis, completing construction of the Units will result in an estimated cost savings of $374 million per year for 40 years. For these reasons, in my opinion, the Company's most prudent course is to continue constructing the Units as previously authorized and approved by the Commission.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Exhibit No. __ (JML-1)

V.C. Summer Units 2 and 3: Sensitivity Analysis of Potential Price Outcomes

July 1, 2016

I. EXECUTIVE SUMMARY

Pursuant to the Engineering, Procurement and Construction Agreement (the "EPC Contact"), costs that are not subject to fixed or firm pricing are included in the Target category, and approximately 80% of the costs included in this category are for labor costs. Accordingly, labor costs will be the principal driver of changes to the amounts Westinghouse would be permitted to charge SCE&G to complete the two AP1000 units under construction in Jenkinsville, South Carolina (the "Units").

Changes in labor costs will be caused by two primary factors: 1) the productivity of Direct Craft Labor (which measures the amount of labor required to accomplish particular tasks), and 2) labor price rates (which determine the cost of that labor). This analysis models the sensitivity of project costs to variations in labor productivity ratios and labor price rates across a range of values and on a going forward basis. Not all of the scenarios modeled are equally probable; however, the range they define captures the likely range of variation in these factors.

Under a recent amendment dated October 2015 to the EPC Contract, SCE&G successfully negotiated for and secured the option to fix the price under the EPC Contract for the work needed to complete the Units ("Fixed Price" option) and thereby shift the risk of variable and increasing labor cost to the contractor. The analysis shows that, across the vast majority of the range of potential values for labor productivity and labor price rates, the Cost-to-Complete the Units if the Fixed Price option is not chosen will be greater than if the Company exercises the Fixed Price option. This is uniformly the case for all scenarios falling within the most likely range of values for labor productivity and labor price.

The data presented by this report establishes that, from a purely numerical standpoint, it is clear that exercising the Fixed Price option is in the best interest of SCE&G and its customers.

II. INTRODUCTION

A. Goals of Report

SCE&G and Santee Cooper were successful in negotiating in the 2015 EPC Amendment the option to fix the EPC Contract price for all payments made on the Units after June 30, 2015, at approximately $3.345 billion, exclusive of certain change orders, including future change orders, and changes in certain Time and Materials costs categories (the "Cost-to-Complete"). Under the Fixed Price option, the Cost-to-Complete would increase by approximately $729 million compared to the projections approved in Order No. 2015-661.[1] This amount includes the additional costs negotiated in the October 2015 EPC Contract Amendment (the "Amendment") to settle multiple claims and to obtain other valuable changes in the EPC Contract.

The NND team and the SCANA Resource Planning Department have performed this analysis in order to assess the potential risks and benefits of exercising the Fixed

[1] This fixed amount of $3.345 billion includes all of the fixed or firm and Target costs except a limited amount of work ($38.3 million) within the Time and Materials component of the EPC Contract price, which SCE&G has reason to believe it can complete for less than the current EPC Target price for this work. The $3.345 billion also would not include future change orders. While the Amendment reduces the price risk associated with future change orders, there remains a price risk that SCE&G will need to manage whether or not the Fixed Price option is exercised. The same is true of Owner's costs and Transmission costs, which are outside of the EPC Contract and therefore not subject to the Fixed Price option.

Price option from a cost perspective. Specifically, the report models 24 scenarios reflecting different values for the two primary factors driving the Cost-to-Complete. The goal is to determine under what conditions the Cost-to-Complete is likely to be more or less than $3.345 billion in the absence of additional price guarantees. This analysis also provides numerical data useful to the decision-making process. However, whether or not to exercise the Fixed Price option requires the exercise of expert business judgment in light of all the risks and uncertainties.

III. THE ASSUMPTIONS UNDERLYING THE ANALYSIS

A. Identifying the Outcomes to Be Modeled

The first step in assessing likely Costs-to-Complete is to identify the key drivers that will determine costs for the project to SCE&G. Because most other costs under the EPC Contract are already fixed or firm costs, the key drivers of future changes in the Cost-to-Complete will be labor-related costs in the Target Category. Specifically, the factors that will affect the Cost-to-Complete are Direct Craft Labor productivity, which will determine the number of labor hours (both direct and indirect) needed to complete the project, and labor price rates, which will determine the price paid for those hours.

B. The Variables Modeled

Currently, the majority of EPC Contract costs are fixed or firm. These costs include such items as design and engineering, equipment, components, and commodities. Approximately 80% of the cost categories that are subject to change, *i.e.*, the Target categories, are labor-related cost categories including Direct Craft Labor, Indirect Labor, and Field Non-Manual Labor. Therefore, labor costs in these Target cost categories are likely to drive any variation in the Cost-to-Complete the Units.

Labor productivity ratios measure the actual Direct Craft Labor hours expended to complete each scope of work compared to the labor hours budgeted to do so and changes in labor productivity ratios reflect the changes in the number of Direct Craft Labor hours needed to complete the project. Variations in the number of Direct Craft Labor hours is the principal driver of the required hours of Indirect Labor (on-site support services) and Field Non-Manual Labor (clerical, field engineering, Quality Assurance and Quality Control, supervisory and safety) needed to support Direct Craft Labor. Therefore, changes in Direct Craft productivity rates will directly impact the number of hours required to complete the project in Indirect Labor and Field Non-Manual categories.[2]

Labor rates, including benefits and overhead, are applied to the budget for labor hours to determine the estimated labor-related cost of the work. Labor rates also include cost allowances per hours worked for consumable materials, tools, personal safety equipment, and craft labor per diem.

1. Direct Labor Productivity Factor ("PF")

The first step in determining the labor cost for a particular project is to determine the units of labor required to complete the scopes of work that comprise the project. There are several steps to this process.

[2] The ratios of Indirect Labor hours and Field Non-Manual Labor hours to Direct Craft hours were held constant in this analysis to focus on the sensitivity of the outcomes to the two primary factors.

a. Units of Labor

Construction estimators use standard units of labor to estimate the cost of installing specified quantities of commodities such as concrete, rebar, pipe, valves, or conduit; terminating specified quantities of electrical lines or communication lines; or installing specified quantities of structural steel, steel flooring, stairways, or lighting. These units of labor are tied to the size and specifications of the commodities in question and the general conditions of the installation (*e.g.*, is the installation completed while on scaffolding, on the ground, aligned vertically or horizontally, etc.). The quantities of commodities are calculated as take-offs from the engineering documents for the project. Estimators then apply standard units of labor to those quantities to create an initial budget of labor hours.

b. Productivity Factors

Estimators apply PFs to the initial budget of labor hours to account for the anticipated conditions on a particular job site. A projected PF of 1.0 indicates that the work on that site is anticipated to require the standard number of labor hours. A PF of 1.10 indicates that it will require 10% more hours than the standard estimate to accomplish the work on that site. Applying PFs to the initial budget of labor hours creates a site-specific budget of labor hours for the project.

c. PFs Underlying the Current Cost Forecast

Westinghouse's estimate of the Cost-to-Complete the Units as reflected in Order No. 2015-661 was computed using a PF of 1.15 for Direct Craft Labor. Thus, Westinghouse was assuming it would take 15% more hours than originally budgeted for the Direct Craft Labor to complete the project.

If at the end of the project, 25% more Direct Craft Labor was required than was budgeted, the project will show a PF of 1.25 at completion. Similarly, if 100% more Direct Craft Labor is required than was budgeted, the PF at completion of the project will be 2.00.

The factors that could increase Direct Craft Labor productivity include such things as regulatory delays, quality issues, component delays, design changes, weather, contractor inefficiency, rework, or schedule mitigation cost. Each of these factors, if realized, will increase the labor hours needed to complete the Units. This increase will be expressed in higher labor PFs. It is therefore possible to analyze the effect of all of the important non-price factors that drive project labor costs by varying labor PFs.

d. Selecting PF Ranges for Modeling

To conduct a sensitivity analysis related to the Cost-to-Complete the Project, our team modeled Direct Craft Labor PFs of 1.00, 1.15, 1.25, 1.50, 1.75, and 2.00. These factors are measured over the remaining life of the project and, therefore, encompass any future productivity improvements made by Westinghouse and Fluor as they seek to improve the efficiency and effectiveness of their design and construction efforts. They also encompass unanticipated difficulties with the project that could increase the units of labor required.

The 1.00 PF is the PF that was included in the original cost projections for the project, chosen by the Consortium, and based on the expectation that modular construction would allow a nuclear project to achieve the productivity rates achieved in non-nuclear projects. To date, this anticipated level of efficiency has not been attained and the productivity constraints have been significant. Even so, the 1.00 PF was chosen as a lower bound to the sensitivity analysis because it is the judgment of the NND team, based on their experience with the project to date, that the chance of achieving a PF of 1.00 or less over the remaining life of the project is remote.

The 1.15 PF is the factor on which the Consortium computed the estimate of the Cost-to-Complete that is reflected in Order No. 2015-661. Based on current productivity rates, it will require a great deal of improvement for Westinghouse and Fluor to achieve a 1.15 PF going forward. This is particularly true because of the constraints of the current schedule. Mitigation likely will be required to meet current schedule commitments, which would typically involve additional labor and therefore less favorable labor productivity rates.

The 1.25, 1.50, and 1.75 PFs have been chosen to show the sensitivity of the Cost-to-Complete to movements in direct labor productivity from the floor of 1.00. The 2.00 PF is the highest leveled modeled. The 2.00 PF assumes that Westinghouse adds nearly double the amount of labor originally anticipated being required to complete the project on time. Because SCE&G believes that it is unlikely that it would require significantly more labor than represented by a 2.00 labor factor to complete the project, this PF has been chosen as the upper bound of the sensitivity analysis. Given what SCE&G knows today about the project, its leadership, and the plans for productivity improvements, SCE&G would expect the PF for the project to fall somewhere in the range of 1.50 to 2.00.

2. Labor Prices

Changes in wage and benefit rates can drive shifts in labor costs even if the number of labor hours required otherwise remains the same. To conduct a sensitivity analysis related to Direct Craft Labor, this analysis models labor cost growth rates of 0%, 2.9%, 5.0%, and 7.0% over the study period.

It is the considered judgment of the NND team and the Resource Planning Department that the likelihood of the labor cost growth rate equaling the extreme values of 0% or 7.0% is small. It is also the considered judgment of the NND team and the Resource Planning Department that it is most likely that labor cost deviations will fall between 2.9% and 5.0%. Under a "business as usual" assumption, the 2.9% growth rate would represent a reasonable forecast since it is the 5-year compound growth rate in the Handy-Whitman cost index in the "All Steam & Nuclear" category for the South Atlantic region of the country. Coincidentally, it also is the 5-year growth rate in construction labor costs projected by IHS over the period 2016-2020 averaged over several categories of labor, again, for the South Atlantic region of the country. However SCE&G believes that 2.9% may be too low because of the need for night time work which should command a premium in the market and also the tightness in the skilled labor force.

IV. RESULTS OF THE ANALYSIS

Computing the Cost-to-Complete using each possible combination of these factors resulted in data for 24 different scenarios. As presented in Table A below, these scenarios reflect the percentages by which the ultimate Cost-to-Complete the Units would exceed the cost under the Fixed Price option. Wherever the numbers are positive, customers would be expected to save that percentage of the total cost of project as a result of SCE&G exercising the Fixed Price option.

TABLE A

Sensitivity of the Project to Cost Changes
Due to Variations in Craft Labor Productivity Factors and Labor Cost Growth Rate
(Percent change in total EPC Contract cost compared to the Fixed Price option)

	Labor Cost Growth Rate (%)			
Productivity Factor	**0%**	**2.9%**	**5.0%**	**7.0%**
1.00	-6.8	-3.8	-1.5	0.8
1.15	-2.7	0.6	3.1	5.6
1.25	0.1	3.5	6.2	8.9
1.50	6.9	10.9	13.9	17
1.75	13.7	18.2	21.6	25
2.00	20.6	25.5	29.3	33.1

Raw numerical results for these scenarios are attached as **Appendix A**.

The most likely scenarios are those in the cells which give the result for PFs of 1.50, 1.75, and 2.00, and labor cost growth rates of 2.9% and 5.0%. They show that within this range of values the total Cost-to-Complete the Units would be greater than the Fixed Price option by between 10.9% and 29.3%.

V. CONCLUSION

Based on the range of values for Direct Craft Labor productivity and labor cost deviations modeled here, it is likely that the Fixed Price option will save customers between 10.9% and 29.3% of the cost of the project. Of the 24 scenarios modeled, only four show that accepting the Fixed Price option would result in higher costs to customers. Those four scenarios involved PFs or labor cost growth rates at the lower bound of the analysis, scenarios that the NND team and Resource Planning Department consider to be unlikely. While there are many other factors and benefits to be considered, the results of this sensitivity analysis provide clear numerical support for the prudency of exercising the Fixed Price option.

Appendix A: Tabular Results

Total Project Costs Due to Variations in Craft Labor Productivity Factors and Labor Cost Growth Rate ($000,000)

	Labor Cost Growth Rate			
Productivity Factor	**0%**	**2.9%**	**5.0%**	**7.0%**
1.00	$3,118	$3,218	$3,295	$3,371
1.15	$3,255	$3,365	$3,449	$3,533
1.25	$3,347	$3,463	$3,552	$3,642
1.50	$3,576	$3,709	$3,810	$3,912
1.75	$3,805	$3,954	$4,068	$4,183
2.00	$4,033	$4,199	$4,326	$4,453

Appendix B: Tabular Results

Total Project Costs Less Fixed Price Option Cost of $3,345 Million Due to Variations in Craft Labor Productivity Factors and Labor Cost Growth Rate ($000,000)

	Labor Cost Growth Rate			
Productivity Factor	**0%**	**2.9%**	**5.0%**	**7.0%**
1.00	($227)	($127)	($51)	$26
1.15	($90)	$20	$104	$188
1.25	$2	$118	$207	$297
1.50	$231	$363	$465	$567
1.75	$460	$609	$723	$838
2.00	$688	$854	$981	$1,108

Exhibit No. __ (JML-2)

Comparative Economic Analysis of Completing Nuclear Construction or Pursuing a Natural Gas Resource Strategy

July 1, 2016

SCE&G®
A SCANA COMPANY

Introduction

The purpose of this study is to determine if abandoning SCE&G's ongoing nuclear construction program and pursuing a natural gas generation strategy for base load generation needs would benefit retail customers in terms of long-run revenue requirements. SCE&G's management directed the Resource Planning Department to use current data to prepare generation cost studies comparable to those performed in 2008 that supported the original decision to construct the two nuclear units (the "Units").

SCE&G has undertaken this exercise expressly reaffirming its position that no single analysis of comparative costs underlies its choice of nuclear generation over gas-fired generation alternatives. The goal of base load generation planning is to create a diverse and flexible portfolio of generation units that can perform effectively in multiple sets of conditions over 40 years or more. No single study or series of studies is an effective substitute for informed business judgment exercised with this goal in mind.

This study calculates the incremental revenue requirements on a comparative basis for two strategies. The first is the base case which involves completing the two nuclear units which are presently under construction and scheduled to go into service in 2019 and 2020. When completed, the Units together will provide SCE&G with 1,229 MW. The second strategy is the natural gas resource strategy in which the Units are cancelled at the effective date of December 31, 2016. The Units are replaced by two combined-cycle units rated at 614 MWs each which come into service in 2019 and 2020 also.

The principal components of the study and conclusion are set forth below. The inputs to the study have been updated to reflect the most current values available.

Load Forecast and Resource Plans

To compute the revenue requirements of the two strategies over a 40-year planning horizon, the study relies on the load forecast data that were reported in summary form in SCE&G's 2016 Integrated Resource Plan. These load forecasts are updated versions of those that were used in the 2008 planning studies (the "2008 Studies") on which the original Base Load Review Act ("BLRA") order was based. Both the nuclear and gas resource strategies are measured against identical load forecasts.

Appendix 1 shows the forecast and the base case scenario resource plan. Both the nuclear capacity and the natural gas combined-cycle capacity are shown on the alternative versions of the resource plan as "base load" capacity entered on line 9 in the table shown in Appendix 1. As was the case with the 2008 Studies, the resource plans for each of the two strategies assumed that, after the base load capacity was added, additional simple-cycle natural gas-fired generation was added to meet subsequent load growth. Comparable amounts of simple-cycle generation with comparable capital cost and operating costs were added under each strategy.

Abandoning Nuclear Construction

As of December 31, 2016, SCE&G expects to have spent $4.607 billion on construction of the Units. If SCE&G were to decide to cancel the nuclear construction project, it would be subject to contractual cancellation charges, site decommissioning and stabilization expenses and other abandonment expenses in addition to the $4.607 billion that would already have been spent. SCE&G's best assessment of the amount of those cancellation expenses would be $262 million for a cancellation effective December 31, 2016. This is the cost on a 100% basis (i.e., including Santee Cooper's 45% share in expenses).

Upon cancellation of the project, SCE&G could scrap, sell or salvage certain materials, equipment and work in progress and could use the proceeds to off-set some part of the abandonment expenses. A large component of the spending to date, however, has been for site work, construction of roads, building and bridges on site, the hiring and training of personnel, design and procurement work, and other activities that do not produce salvageable materials. SCE&G estimates that of the amounts spent to date, the salvage value of materials, equipment, and work in progress would be approximately $318 million on a 100% basis. This $318 million would be netted against the gross cancellation cost of $262 million to produce an estimate of the net cancellation benefit, not considering the $4.607 billion already spent, of $56 million, again on a 100% basis. SCE&G's customers would receive the benefit of 55% of this or $31 million.

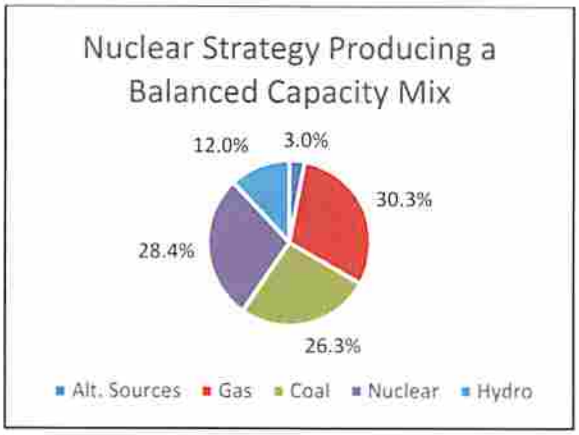
Thus, subtracting the net cancellation gain of $31 million from the $4.607 billion spent as of December 31, 2016, produces a total abandonment cost of $4.576 billion.

The model used for comparing the costs of these two strategies computes a levelized cost for capital invested that includes all relevant parameters given the nature of the asset involved. This combination of costs spent to date and additional cost to abandon the project represent a cost that must be borne by the gas resource strategy.

Benefit of a Balanced Capacity Portfolio

A significant advantage of continuing construction of the two nuclear units is that once added to SCE&G's generation fleet, the Units will produce a well-balanced capacity portfolio. The following charts show the percent distribution of capacity under a plan of continuing nuclear construction and the alternative of replacing it with natural gas-fired capacity.

CHART A



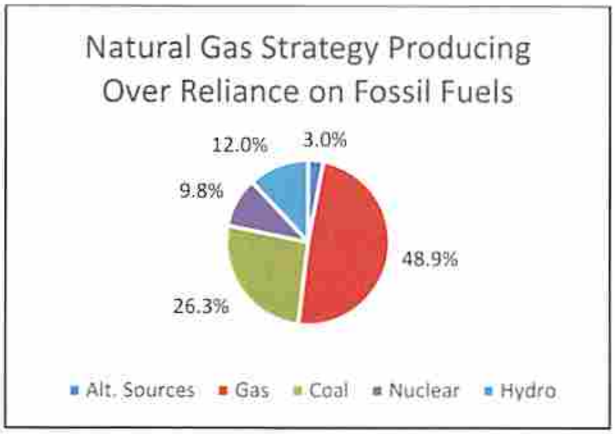


Chart A shows that the Natural Gas Strategy produces a generation system that in 2021 relies on fossil fuels for 75.2% of its generating capacity. The Nuclear Strategy creates a more balanced portfolio. Such a portfolio better protects customers from unexpectedly high costs in any one fuel source while allowing the utility to take advantage of opportunities in others.

Price of Natural Gas

Chart B shows two forecasts of natural gas prices at the Henry Hub. One is the current Energy Information Administration ("EIA") natural gas forecast reported in their 2016 Annual Energy Outlook ("AEO"). The second is the proprietary natural gas forecast that SCE&G uses for planning purposes. To develop this forecast, SCE&G uses the forward prices reported for the NYMEX futures contracts over the next three years (i.e., through the end of 2018) and then applies an escalation factor projected by the economic forecasting firm IHS Global Insight, Inc. to forecast prices beyond three years in the future. This is a methodology that SCE&G has used for a number of years to produce gas forecasts for planning studies. The value of this methodology is that it is simple and objective. However, because all forecasts of future gas prices are subject to error, SCE&G typically tests the results of these studies done using these forecasts through sensitivity analyses that model variations in gas prices.

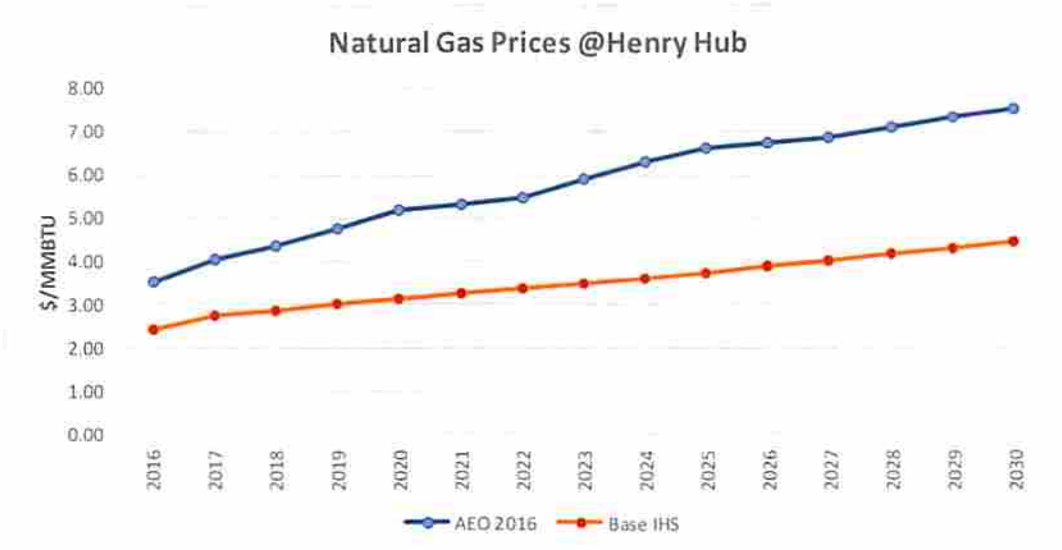
The SCE&G natural gas price forecast is the lowest of the forecasts reported on Charts B and G. It is the forecast used in these studies as the base case value for future gas prices. Charts B and C compare SCE&G baseline natural gas price forecast to the EIA's forecast that was provided in their 2016 AEO.

CHART B

	Natural Gas Price Forecasts @Henry Hub ($ per MMBTU)						
	2016	2017	2018	2019	2020	2030	2035
SCEG Baseline	2.41	2.74	2.88	2.98	3.08	4.32	5.11
EIA 2016 Forecast	3.53	4.04	4.37	4.74	5.18	7.54	8.13

Chart C graph compares SCE&G's baseline forecast to that of the EIA.

CHART C



Social Cost of Carbon

In 2009, the Obama Administration convened a group of federal agencies to establish a social cost for carbon dioxide ("CO_2") to be used in future rulemaking by federal agencies. In 2010, this interagency committee published its first social cost of carbon ("SCC"), a monetized value associated with the cost of emitting a ton of CO_2. In 2013, the interagency working group published an updated report with new estimates of the social cost of carbon.[1] Following is a copy of a table from the government's report on SCC estimates summarizing their results:

[CHART D IS ON FOLLOWING PAGE]

[1] Whitehouse Report: "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf

CHART D

Revised Social Cost of CO_2, 2010 – 2050 (in 2007 dollars per metric ton of CO_2)

Discount Rate Year	5.0% Avg	3.0% Avg	2.5% Avg	3.0% 95th
2010	11	33	52	90
2015	12	38	58	109
2020	12	43	65	129
2025	14	48	70	144
2030	16	52	76	159
2035	19	57	81	176
2040	21	62	87	192
2045	24	66	92	206
2050	27	71	98	221

The cost of carbon emissions shown in the above table are stated in 2007 dollars. The following table restates the costs in nominal dollars assuming an inflation rate of 2% and includes the costs used in SCE&G's study.

CHART E

	Social Cost of CO2 in Nominal Dollars					SCE&G's Study	
Discount Rate	5.0%	3.0%	2.5%	3.0%			
Year	Avg	Avg	Avg	95th		$15/Ton	$30/ton
2010	12	35	55	96			
2015	14	45	68	128			
2020	16	56	84	167			
2025	20	69	100	206		$15	$30
2030	25	82	120	251		$19	$38
2035	33	99	141	306		$24	$49
2040	40	119	167	369		$31	$62
2045	51	140	195	437		$40	$80
2050	63	166	230	518		$51	$102

SCE&G's scenario of $15 per ton is very close to the lowest government estimates for SCC based on a social discount rate of 5.0%. Both of SCE&G's scenarios, the $15 and $30 scenarios, are below the SCC values recommended for government use, *i.e.*, those based on a 3.0% discount rate and are well below the high estimates based on a 2.5% social discount rate and the 95th percentile in the 3.0% discount case.

The Clean Power Plan

In August 2015 the Environmental Protection Agency ("EPA") published its Clean Power Plan under which the emissions of CO_2 by certain fossil generating plants would be regulated. The EPA established emission targets for each state covered by regulations issued under Section 111(d) of the Federal Clean Air Act and has proposed various pathways for each state to comply with those targets. Those pathways include a "rate-based" compliance plan, wherein each electric generating unit ("EGU") would be required to meet an emission rate target.

Alternatively, a state may select a "mass-based" compliance plan, in which an EGU would be allocated a CO_2 emission cap. In both the rate and mass-based plans, EGUs would have the opportunity to trade credits or allocations to assist in meeting those targets. Under a rate-based compliance plan the new nuclear units would count towards compliance and would generate sufficient emission rate credits that SCE&G would not be required to incur any additional CO_2 compliance costs under the Clean Power Plan. On the other hand, if the new nuclear units are not built then SCE&G would be subject to a CO_2 emissions limit and incur costs to comply. In this study then it was assumed under the new nuclear scenario, SCE&G's CO_2 costs would be $0 while under the natural gas scenario, the CO_2 costs would be either $0, $15, or $30 per ton.[2]

Capital Costs and Operating Costs of Natural Gas Capacity

The gas resource strategy relies on combined-cycle plants for additional base load generation. As mentioned above, both the nuclear and natural gas resource strategies add simple-cycle combustion turbines as required to meet additional capacity needs. Chart F contains the costs and heat rates assumed for these units in 2016 dollars. These inputs are based on SCE&G's ongoing monitoring of equipment and construction prices and are verified through reviews of published prices and vendor discussions. They reflect current costs to engineer, procure, and construct the assets in question.

CHART F

Gas Technology	Capacity Rating MW	Construction Cost $/KW	Heat Rate BTU/KWH	Fixed O&M Per Year	Variable O&M Per MWH
Simple-Cycle	93	$754	9,169	$708,690	$1.36
Combined-Cycle	614	$1,105	6,862	$9,009,299	$1.29

Miscellaneous Inputs

In this study, all carrying costs on capital investments are calculated including taxes, depreciation, insurance, and cost of capital as applicable to the type of asset in question. Fixed and variable O&M include current estimates of turbine maintenance costs for combined-cycle units. Nuclear production tax credits have been updated. Nuclear fuel costs are based on current forecasts of uranium prices and prices of new fuel assembly fabrication.

Scenario Analysis

In this study, the nuclear strategy and the natural gas resource strategies were studied under 27 different scenarios: three different natural gas prices, three different costs per ton of CO_2 emitted, and three different levels of load on SCE&G's system.

a. <u>Natural Gas Price Scenarios</u> - The natural gas scenarios included the base line forecast of future natural gas prices as previously discussed as well as prices reflecting a 50%

[2] On February 9, 2016, the Supreme Court stayed the rule pending disposition of a petition of review of the rule in the United States Court of Appeals for the D.C. Circuit.

and 100% increase in the base line forecast. These three gas scenarios quantify the sensitivity of the analysis to variable natural gas prices. Chart G shows the natural gas price for each scenario for several years in the forecast period, as well as EIA's projection for reference.

CHART G

Natural Gas Price Forecasts @Henry Hub (S per MMBTU)							
	2016	**2017**	**2018**	**2019**	**2020**	**2030**	**2035**
SCEG Baseline	2.41	2.74	2.88	2.98	3.08	4.32	5.11
50% Higher Scenario	3.61	4.11	4.32	4.48	4.62	6.47	7.66
100% Higher Scenario	4.81	5.49	5.76	5.97	6.16	8.63	10.22
EIA 2016 Forecast	3.53	4.04	4.37	4.74	5.18	7.54	8.13

b. <u>CO_2 Cost Scenarios</u> – In light of current national environmental policies, it is clear that there will be a cost associated with the emissions of CO_2 in the future. It remains to be seen whether or not a fully-fledged cap and trade system will ultimately develop. In any case utilities will incur costs to lower their emissions of CO_2, certainly in the uneconomic dispatch of their generation fleets and probably through the early retirement of coal units and new investment in replacement capacity. In the present study there were three CO_2 cost scenarios used: $0, $15, and $30 per ton beginning in 2025 and escalating at 5%.

CO_2 costs at $0 per ton are not a realistic expectation for the long term. However, the $0 per ton CO_2 scenario provides a useful lower bound to test the sensitivity of the study to this input. The scenarios with $15 and $30 per ton will provide a sensitivity to the emissions cost. Both numbers are below the SCC set by the government as mentioned previously.

c. <u>Load Forecast Scenarios</u> - Three scenarios representing variations of the base case load forecast scenarios were modeled. They included the base case forecast and load forecast scenarios where the load was 5% higher and 5% lower than the base case. These higher and lower load scenarios were modeled to test the sensitivity of the analysis to variability in load due to factors such as increased economic activity or increased rates of energy conservation. The 5% plus or minus load scenarios provide for a reasonable assessment of possible variation in load on the system.

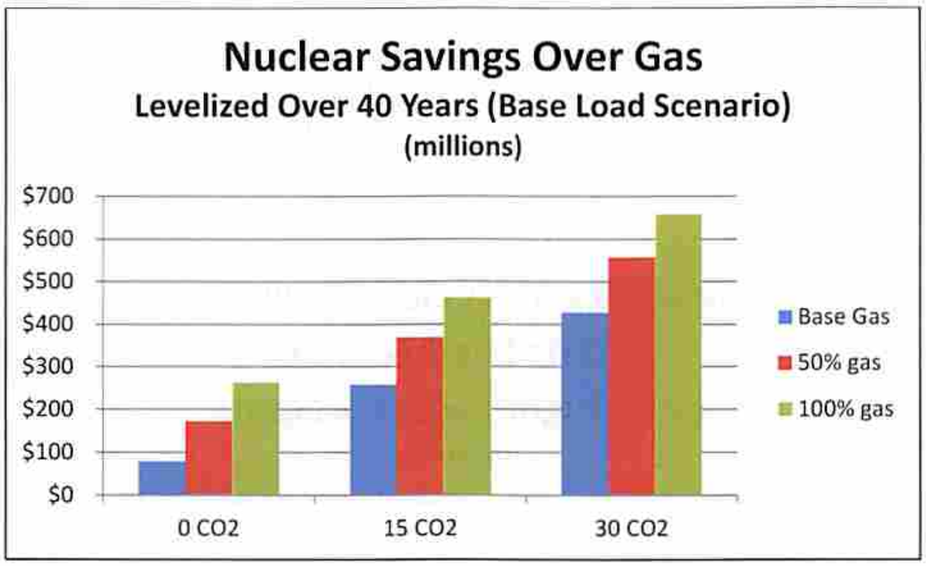
Dispatch Modeling

The results used in each of the 54 combinations of 27 scenarios and 2 generation strategies is derived from a simulation of the generation system dispatch using the PROSYM dispatch model. The PROSYM model is licensed from ABB and is widely used in the utility industry. This model determined how each generation resource on the system would be dispatched under each scenario over the 40-year planning horizon. Modeling the dispatch of the system using the PROSYM model produced both fuel cost and variable O&M costs for each scenario for each of the 40 years of the planning period. These fuel costs and variable O&M costs generated by the PROSYM model were then combined with the capital costs and other fixed costs for each scenario to determine a levelized annual cost for each of the 27 scenarios over the 40-year planning horizon.

Scenario Results

The results of the modeling are set forth below in Chart H. This chart shows the savings from continuing to construct the Units based on three sets of assumptions as to future gas prices, and based on CO_2 costs of $0, $15, and $30 evaluated against SCE&G's base case scenario for future load. SCE&G believes that the most reasonable scenario for planning purposes is the scenario that models a $15 CO_2 cost and gas prices that are 50% higher than the current SCE&G gas forecast. That analysis shows that the nuclear strategy is less costly than gas by a levelized amount of $374 million per year for 40 years.

CHART H



The numerical results of the scenarios shown in Chart H are set forth in Chart I below:

CHART I

Base Load Scenario

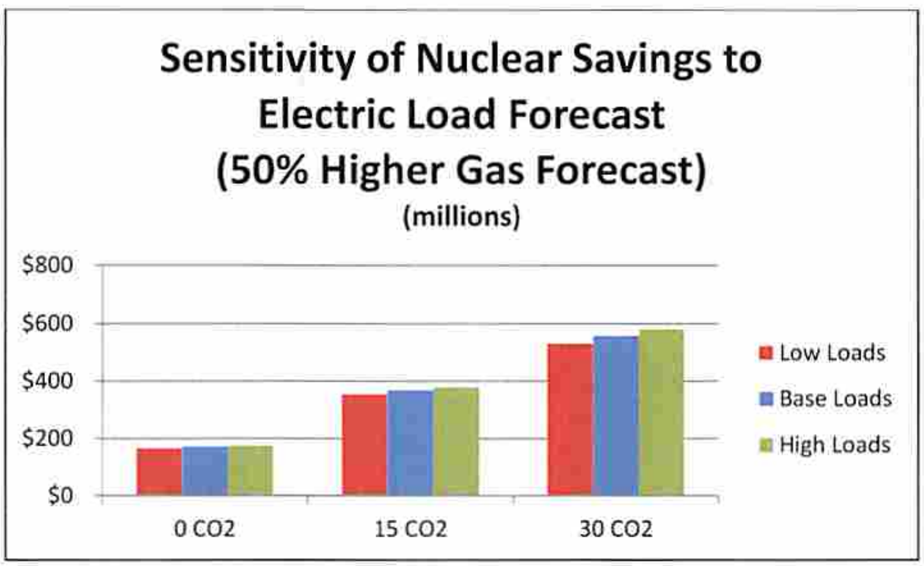
Benefit of Nuclear Strategy over the Gas Strategy Levelized Present Worth of Change in Revenue Requirements Over 40 Years (millions)			
	Base Gas	**50% Higher Gas**	**100% Higher Gas**
$0 CO2 Price	$84	$177	$269
$15 CO2 Price	$263	$374	$468
$30 CO2 Price	$433	$562	$663

This Chart highlights several critical points. First, completing the nuclear construction program is more economical than switching to a gas resource strategy across all scenarios modeled. In not one case is gas less costly than nuclear. The lowest level of nuclear advantage is a levelized annual advantage of approximately $84 million per year. This occurs using base gas price assumptions and CO_2 prices at $0 per ton. In the 2008 Studies, the $0 per ton CO_2 scenario with low gas prices resulted in nuclear being more costly than gas by $44 million.

In this series of scenarios, the nuclear strategy had the highest cost advantage over gas in the 100% Higher Gas scenario with a $30 per ton CO_2 price under the high load scenario. In that scenario, the nuclear strategy was more cost effective than the gas resource strategy by a levelized amount of $689 million per year. As mentioned above, the scenario with the set of assumptions that SCE&G believes to be most reasonable for planning purposes is 50% higher gas prices with $15 per ton CO_2 where nuclear has a cost advantage over gas of $374 million per year.

Studies were run with different assumptions as to future levels of system load to determine whether the studies' results were sensitive to changes in future electric load forecasts. Chart J shows results calculated using the base load forecast side by side with results calculated using load forecasts that have been increased by 5% and decreased by 5%. The chart shows very little variability in results based on changes in the load forecast.

CHART J



The scenario results reported on Chart J are for the 50% Higher Gas scenario. The Base Gas and 100% Higher Gas scenarios were modeled in the same way. The resulting charts are attached as Appendix 2 and the underlying data is attached as Appendix 3. They show a similar alignment of results. Collectively, these charts show that the cost advantage of the nuclear strategy over the natural gas resource strategy is consistent whether electric loads are greater or less than anticipated in the future.

There are several other inferences that can be drawn from these results of testing the nuclear and the gas resource strategies across these 27 scenarios. First, the advantage that the nuclear strategy has over the gas strategy is not dependent on load growth forecasts. Forecasts for load growth are currently very low. But even if the current load growth projections turn out to be high because of Demand Side Management, energy efficiency, or distributed or alternative generation, the nuclear advantage is not materially reduced.

Second, the study shows that the comparative economics of the nuclear and natural gas resource strategies swing widely based on gas price forecasts and future CO_2 cost assumptions. This shows that the economics of the gas resource strategy are very sensitive to swings in natural gas prices and CO_2 costs. This confirms that a resource strategy dependent of natural gas generation significantly increases SCE&G's exposure to fossil-fuel price volatility and environmental cost increases.

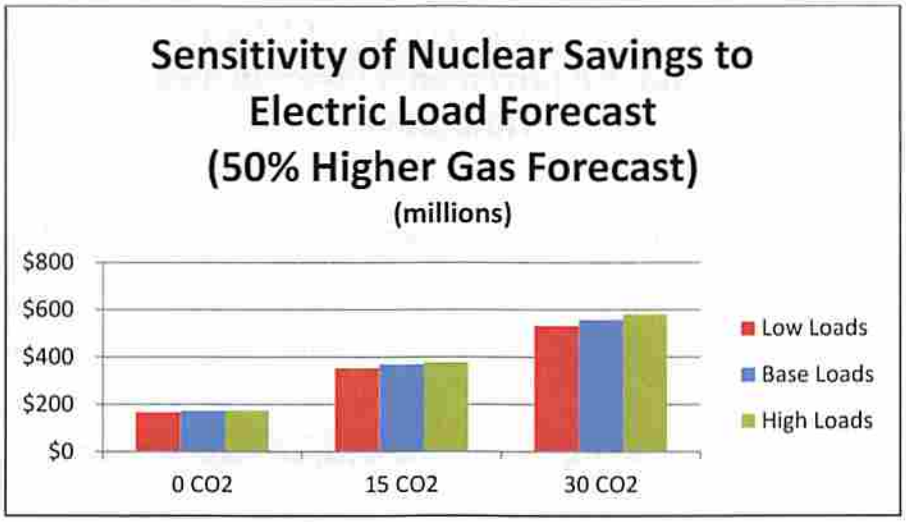
Conclusion

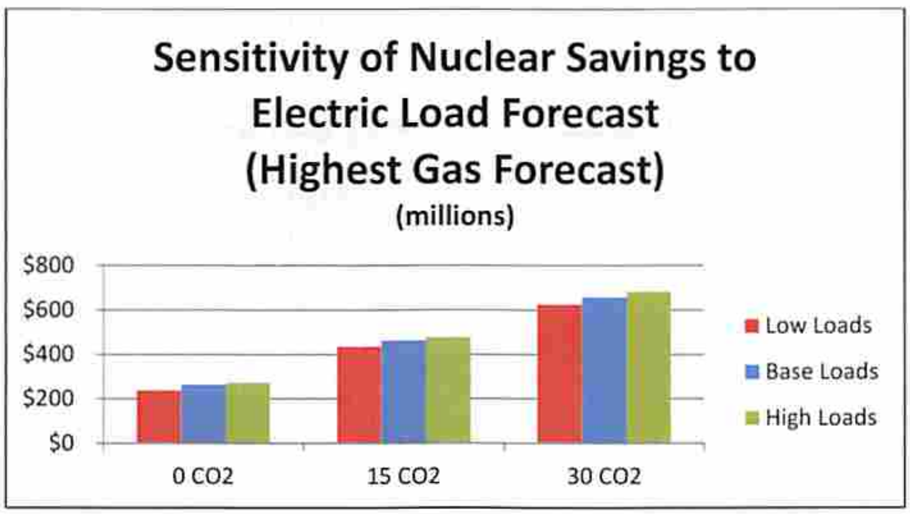
The results of this study demonstrate through the use of a full system dispatch model, run over a 40-year planning cycle, and using updated information on relevant parameters that the nuclear strategy remains the strategy best able to provide favorable results over a broad range of future operating conditions. The most reasonable estimate of the cost advantage of completing the Units is $374 million per year for 40 years.

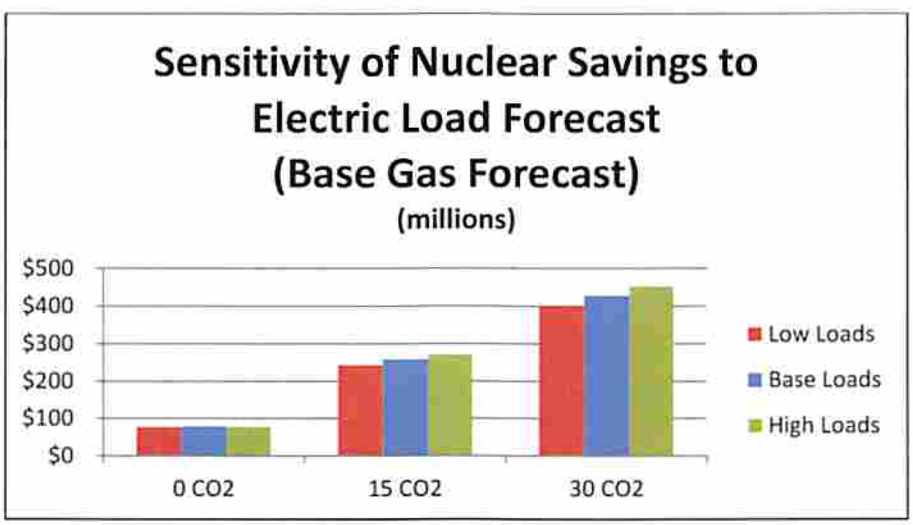
SCE&G Forecast of Summer Loads and Resources
(MW)

	YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Load Forecast																
1	Baseline Trend	5031	5133	5293	5431	5582	5721	5837	5948	6047	6136	6230	6318	6403	6495	6583
2	EE Impact	-8	-13	-26	-45	-63	-82	-101	-120	-140	-160	-180	-201	-223	-244	-265
3	Gross Territorial Peak	5023	5120	5267	5386	5519	5639	5736	5828	5907	5976	6050	6117	6180	6251	6318
4	Demand Response	-257	-260	-268	-272	-274	-277	-279	-281	-284	-286	-289	-291	-294	-297	-299
5	Net Territorial Peak	4766	4860	4999	5114	5245	5362	5457	5547	5623	5690	5761	5826	5886	5954	6019
System Capacity																
6	Existing	5282	5307	5336	5376	5421	6035	6649	6649	6649	6649	6649	6649	6649	6649	6742
	Additions:															
7	Solar Plant	25	29	40	45											
8	Peaking/Intermediate														93	93
9	Baseload					614	614									
10	Retirements															
11	Total System Capacity	5307	5336	5376	5421	6035	6649	6649	6649	6649	6649	6649	6649	6649	6742	6835
12	Firm Annual Purchase	300	225	325	425											
13	Total Production Capability	5607	5561	5701	5846	6035	6649	6649	6649	6649	6649	6649	6649	6649	6742	6835
Reserves																
14	Margin (L13-L5)	841	701	702	732	790	1287	1192	1102	1026	959	888	823	763	788	816
15	% Reserve Margin (L14/L5)	17.6%	14.4%	14.0%	14.3%	15.1%	24.0%	21.8%	19.9%	18.2%	16.9%	15.4%	14.1%	13.0%	13.2%	13.6%

Sensitivity of Nuclear Savings to Electric Load Forecast







Benefit of Nuclear Strategy over the Gas Strategy Levelized Present Worth of Change in Revenue Requirements Over 40 Years (millions)

Base Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
$0 CO2 Price	$84	$177	$269
$15 CO2 Price	$263	$374	$468
$30 CO2 Price	$433	$562	$663

High Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
$0 CO2 Price	$83	$180	$278
$15 CO2 Price	$276	$384	$483
$30 CO2 Price	$457	$586	$689

Low Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
$0 CO2 Price	$82	$172	$242
$15 CO2 Price	$248	$359	$441
$30 CO2 Price	$407	$536	$629

Increase in Capital Costs of Nuclear Strategy Needed for Breakeven with Gas Strategy Based on Present Worth of Incremental Revenue Requirements Over 40 Years (millions)

Base Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
\$0 CO_2 Price	\$860	\$1,815	\$2,752
\$15 CO_2 Price	\$2,691	\$3,827	\$4,790
\$30 CO_2 Price	\$4,435	\$5,761	\$6,792

High Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
\$0 CO_2 Price	\$852	\$1,849	\$2,849
\$15 CO_2 Price	\$2,825	\$3,932	\$4,950
\$30 CO_2 Price	\$4,684	\$6,004	\$7,062

Low Load Scenario

	Base Gas	50% Higher Gas	100% Higher Gas
\$0 CO_2 Price	\$841	\$1,763	\$2,483
\$15 CO_2 Price	\$2,539	\$3,679	\$4,513
\$30 CO_2 Price	\$4,169	\$5,492	\$6,448

July 12, 2016

From: Kenneth J. Browne
Senior Engineer
Business and Financial Services

To: Abney A. Smith
Manager
Business and Financial Services

EXHIBIT NO: #20
WITNESS: Browne
DATE 9-25-18
THOMPSON COURT REPORTING INC.

Subject: Resignation

Dear Skip,

I am writing this letter to announce my resignation from SCE&G, to be effective July 29, 2016. I am leaving SCE&G to take the next step into retirement. This was not an easy decision to make. While I look forward to entering the next phase of my life I will miss the friendships I have made here and the excitement of working on this project. Debbie and I will be staying in Blythewood for awhile, however it is our intent to eventually relocate back to the Charleston area to be close to our family.

I believe this is a good time to leave the project as the new Fixed Price agreement takes effect and there should be some reduction in workload for the Business and Finance team. Also, with Joey joining the team, there is someone to help out. I will be working with Joey and the rest of the team to pass along some of my records and computer files and hopefully have a smooth transition over the next couple of weeks. If I can be of any other assistance either before or after my departure, please let me know. I will help out in any way I can. This is a very important project for SCE&G, Santee Cooper and the residents of our state and I will be watching with great interest as a spectator.

I have enjoyed my time at SCE&G and I really appreciate the opportunity that has been provided to me by the company. The friendships made here and the spirit of teamwork and cooperation enjoyed here, have added to my life greatly. I wish you all the best and I look forward to successful completion of the V.C. Summer new nuclear construction project.

Sincerely,

Kenneth J. Browne

Ex. 20

DIRECT TESTIMONY OF
STEPHEN A. BYRNE
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2016-223-E

EXHIBIT NO. #21
WITNESS: Byrne
DATE 9-25-18
THOMPSON COURT REPORTING INC.

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is Stephen A. Byrne, and my business address is 220 Operation Way, Cayce, South Carolina. I am President for Generation and Transmission of South Carolina Electric & Gas Company ("SCE&G" or the "Company").

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I have a Chemical Engineering degree from Wayne State University. After graduation, I started my nuclear career working for the Toledo Edison Company at the Davis-Besse Nuclear Plant. I was granted a Senior Reactor Operator License by the Nuclear Regulatory Commission ("NRC") in 1987. From 1984 to 1995, I held the positions of Shift Technical Advisor, Control Room Supervisor, Shift Manager, Electrical Maintenance Superintendent, Instrument and Controls Maintenance Superintendent, and Operations Manager. I began working for SCE&G in 1995 as the Plant Manager at the V.C. Summer plant. Thereafter, I was promoted to Vice President and Chief Nuclear Officer. In 2004, I was promoted to the position of Senior Vice President for Generation, Nuclear and Fossil Hydro. I was promoted to the position of Executive Vice President for Generation in 2008 and to Executive Vice President for Generation and Transmission in early 2011. I was promoted to President for Generation and Transmission and Chief Operating Officer of SCE&G in 2012.

Q. WHAT ARE YOUR DUTIES WITH SCE&G?

A. As President of Generation and Transmission and Chief Operating Officer for SCE&G, I am in charge of overseeing the generation and transmission of electricity for the Company. I also oversee all nuclear operations. Included in my area of responsibility is the New Nuclear Deployment ("NND") project in which Westinghouse Electric Company, LLC ("Westinghouse") is constructing two Westinghouse AP1000 nuclear generating units in Jenkinsville, South Carolina (the "Units") that are jointly owned by SCE&G and South Carolina Public Service Authority ("Santee Cooper").

Q. HAVE YOU EVER TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I have testified before the Public Service Commission of South Carolina (the "Commission") in several past proceedings.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to discuss the Petition SCE&G filed as a result of the October 27, 2015 Amendment (the "Amendment") to the Engineering, Procurement and Construction Agreement (the "EPC Contract"), as well as operational, contractual and other matters related to the updates to the cost and construction schedules proposed in this proceeding. This testimony is also submitted in satisfaction of the requirement imposed by the Commission in Order 2009-104(A) that the Company provide annual status reports concerning its progress in constructing the Units.

CONSTRUCTION UPDATE

Q. PLEASE PROVIDE AN OVERVIEW OF THE PROJECT STATUS AS IT RELATES TO CONSTRUCTION.

A. While certain aspects of the work present challenges to the completion schedule, overall progress continues with approximately 3,700 contractor personnel and subcontractor workers on site daily. A majority of these jobs are held by South Carolina residents and a number of South Carolina companies are contractors or subcontractors on the project. We believe this to be the largest construction project in the history of South Carolina.

The critical paths for both Units run through three major milestones for the project: (1) completion of the Shield Building; (2) completion of structures and setting of equipment inside Containment; and (3) Initial Energization of the plant to support testing of equipment and systems. As of June 30, 2016, the Unit 2 primary critical path runs through the placement of reinforced concrete structures to support installing the Shield Building upper horizontal transition panels at elevation 146'. The Unit 3 primary critical path runs through the onsite assembly and completion of module CA20 sub-assemblies 1 and 2 and lifting and setting them in place in the Auxiliary Building. This will allow the setting of module CA22 and backfill activities supporting the Annex Building and Initial Energization.

From a broader perspective, when I was before the Commission a little over a year ago, I testified that the project was passing through an important time of transition.[1] When we began the project, the most important risks we faced were related to first-of-a-kind nuclear construction activities. These are two of the first AP1000 units to be built in the United States. The NND team has worked through many first-of-a-kind activities. Those include

1. Initial licensing for the AP1000 design and licensing and permitting for the construction project at Jenkinsville.
2. Identifying and responding to unanticipated site conditions.
3. Re-establishing a nuclear-safety qualified supply chain in the United States.
4. Fabricating the major equipment for the Units.
5. Siting and right-of-way acquisition for the major upgrades to our transmission system needed to deliver power from the Units.
6. Establishing the Company's ability to finance the nuclear construction successfully under the BLRA.
7. Recruiting and hiring the construction workers for the project and recruiting the personnel to be trained to operate and maintain the Units when complete.

Since 2015, we have continued to see improvements in the nuclear supply chain. Newport News Industrial ("NNI") is consistently supplying shield building

[1] A transcript of my direct pre-filed testimony in that proceeding can be found at https://dms.psc.sc.gov/Attachments/Matter/d4fc5467-155d-141f-2316651b5306ebbf. A copy of this testimony is incorporated here by reference.

panels that meet quality and schedule commitments. NNI's current fabrication schedules indicate that substantially all shield building panels will be delivered on site before their construction-need dates. The fabrication of the last remaining component of the shield building walls, the tension ring and air inlets, has been assigned to NNI, which is a very positive development.

At present, more than 80% of the major equipment for the Units is fabricated and stored on site. The first AP1000 units, which are being built in China, continue to progress toward successful completion and lessons learned in those projects are being applied in Jenkinsville. In mid-2016, the first of these units was undergoing acceptance testing. Initial fuel load for this unit is likely to take place sometime in 2016.

Increasingly, the risks that define the project are execution risks related to construction, fabrication and acceptance testing, along with risks associated with start-up, including training and licensing the operators and other personnel necessary to support initial fuel load.

Q. HAVE THERE BEEN IMPORTANT DEVELOPMENTS RELATED TO THE EPC CONTRACT?

A. Yes. In September of 2015, Chicago Bridge & Iron ("CB&I") asked for permission to exit the project which gave us and Westinghouse the opportunity to restructure the Consortium, hire Fluor Corporation as construction manager, resolve outstanding contractual disputes between the parties, and revise the EPC Contract to minimize future disputes. Together, these changes should make the project much easier for Westinghouse and Fluor to manage efficiently to conclusion, which is a major benefit to SCE&G, Santee Cooper and their customers.

Q. DO YOU HAVE PHOTOGRAPHS OR SLIDES THAT ILLUSTRATE THE STATUS OF CONSTRUCTION AND FABRICATION ACTIVITIES RELATED TO THE UNITS?

A. Yes. Those slides are attached to my testimony as Exhibit No. __ (SAB-1). Let me now review those slides with the Commission and the parties.

Q. PLEASE DESCRIBE EXHIBIT NO. _ (SAB-2).

A. Exhibit No. _ (SAB-2) is the Milestone Construction schedule based on the current construction schedule for the Units.

Q. WHAT ARE THE NEW GUARANTEED SUBSTANTIAL COMPLETION DATES FOR THE UNITS?

A. The Guaranteed Substantial Completion Dates ("GSCDs") of the Units are now August 31, 2019 for Unit 2 and August 31, 2020 for Unit 3. These dates are each approximately two months later than the projected completion dates approved in the last BLRA order.

Q. ARE THESE SUBSTANTIAL COMPLETION DATES AND THE CONSTRUCTION SCHEDULES THAT SUPPORT THEM REASONABLE?

A. Yes. The substantial completion dates and the construction schedules set forth in Exhibit No. ___ (SAB-2) are based on extensive construction data that Westinghouse has provided to SCE&G. That data includes a construction schedule which identifies and sequences the tens of thousands of specific construction activities that must be accomplished to complete the project. SCE&G's construction experts have reviewed this schedule and found that its scope and sequencing is logical and appropriate. As I will discuss in more detail below, the new construction manager for the project, Fluor, is conducting a full review of that schedule based on its extensive expertise in these matters. The goal of Fluor's effort is to ensure that the GSCDs can be met and that any needed mitigation plans are put in place to support the schedule. Those mitigation plans will include additional construction staffing and round-the-clock work shifts. Consistent with its responsibilities as Owner, SCE&G has carefully reviewed and evaluated all information that is available related to the project and schedule and finds it to be reasonable.

It is my opinion that Westinghouse and Fluor have a reasonable construction plan in place to achieve the GSCDs. That plan is reflected in the milestone construction schedule which is attached to my testimony as Exhibit No. ___ (SAB-2). It is my considered opinion that Exhibit No. ___ (SAB-2) represents a reasonable and prudent schedule for completing the project as envisioned by the BLRA and should be adopted as an update to the construction schedule that was initially adopted as Exhibit E to Order No. 2009-104(A).

Q. YOU MENTIONED THAT FLUOR IS CONTINUING TO REVIEW THE PROJECT SCHEDULE. COULD YOU ELABORATE?

A. Fluor continues to review the current schedule based on its construction management expertise and experience with the project. Fluor's goal is to determine the optimal staffing plans, resource allocations, and sequencing of work to achieve the GSCDs most efficiently. We expect there will be internal realignments and re-sequencing of work scopes within the existing schedule.

Q. IS SUCH A REVIEW UNCOMMON?

A. The construction schedule for a project such as this is dynamic by nature and is subject to constant adjustment as the project progresses. Fluor's current review of the schedule is not quantitatively different from the review and recalibrating of the schedule that is on-going continuously in this project as is standard in the industry.

Q. DOES SCE&G BELIEVE THAT THE BLRA MILESTONE CONSTRUCTION SCHEDULE PROPOSED HERE IS REASONABLE?

A. Yes. This proposed schedule is reasonable. As a result of the Amendment, we now have in place:

1. A fully restructured Consortium,
2. A new and highly-skilled mega-projects construction manager,
3. An Amendment that eliminates practically all the major commercial issues between the parties at this time,
4. An EPC Contract that has been reformulated to limit future disputes, and
5. Revised liquidated damages, completion incentives and other EPC terms that put Westinghouse at risk for approximately $1.0 billion on a 100% basis due to delay.

All these factors support the conclusion that the construction schedule attached as Exhibit No. ___ (SAB-2) is reasonable and prudent schedule for completing the Units.

Nonetheless, this remains a very complex and challenging project. Meeting the current schedule will require a great deal of construction management skill. But Fluor appears well qualified to manage this project. Westinghouse will probably be required to invest hundreds of millions of dollars in schedule mitigation. And Westinghouse has made a corporate commitment to complete these Units successfully to protect its AP1000 business worldwide. For those reasons, I believe that Westinghouse and Fluor have both the skills and the incentive to successfully complete the project within the schedule attached as Exhibit No. ___ (SAB-2).

EPC CONTRACT AMENDMENT

Q. PLEASE DESCRIBE THE AMENDMENT.

A. The Amendment does a number of things.

1. **Resolution of Current Disputes:** The Amendment resolves substantially all of the outstanding EPC Contract disputes.

2. **Guaranteed Substantial Completion Dates:** The GSCDs of the Units have been revised to August 31, 2019 for Unit 2 and August 31, 2020 for Unit 3.

3. **New Liquidated Damages Provisions:** New provisions govern delay-related liquidated damages and cap liquidated damages at approximately $371.8

million[2] in aggregate for both Units. The current maximum is $86 million. The $371.8 million amount includes $137.5 million per Unit that Westinghouse must pay SCE&G if a Unit does not qualify for Federal Production Tax Credits. Also, a bonus for megawatts in excess of the contractual amount that was included in the EPC Contract before the Amendment has been eliminated.

4. **Federal Production Tax Credit Completion Incentive:** The Consortium will earn a completion incentive for each Unit that is finished in time to qualify for Federal Production Tax Credits. The completion incentive is approximately $165.0 million for both Units.

5. **Fixed Price Option:** SCE&G has obtained the right to transfer to the Fixed Price EPC cost category practically all of EPC costs to be paid after June 30, 2015, not including future change orders. This Fixed Price amount excludes $38.3 million of work within the Time and Materials category. The Fixed Price going forward is approximately $3.345 billion.

6. **Parental Guarantees:** Westinghouse's parent company, Toshiba Corporation, reaffirmed its guaranty of Westinghouse's payment obligations under the EPC Contract. Westinghouse's payment obligations are joint and several obligations with Stone & Webster. SCE&G and Santee Cooper canceled CB&I's guaranty with respect to the project to allow CB&I to leave the project.

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[2] Unless otherwise specified, all cost figure in this testimony are stated in 2007 dollars and reflect SCE&G's 55% share of the cost of the Units.

7. **New Milestone Payment Schedule:** The parties will develop a revised construction milestone payment schedule to eliminate the contentious progress payment schedule in the existing EPC Contract. While the parties are developing the revised construction milestone payment schedule, SCE&G is making payments of $55.0 million per month which are being reconciled against the invoices that would have been issued under the prior terms of the EPC Contract and will be credited to the $3.345 billion cost to complete the Units under the Fixed Price option. Thereafter, construction milestone payments will be based on the revised construction milestone payment schedule.

8. **Change in Law Definition:** The Change in Law provisions of the EPC Contract have been amended to reduce the likelihood of future commercial disputes by clearly defining what legal and regulatory pronouncements constitute a change in law that entitles Westinghouse to a claim for resulting costs.

9. **Design Control Document Revision 19 ("DCD Rev. 19"):** The amended EPC Contract now expressly states that Westinghouse must provide Units that meet the standards of the NRC-approved design contained in DCD Rev. 19 in all respects. DCD Rev. 19 was issued approximately three years after the EPC Contract was signed and this chronology has been the basis of disputed claims between the parties.

10. **No Interim Lawsuits:** The Amendment eliminates any requirement or ability for the parties to sue each other before substantial completion of the project.

11. Interim Dispute Resolution Board: A dispute resolution board and dispute resolution process is being implemented to resolve commercial claims and disputes going forward.

12. Equipment Warranties: Most equipment warranties have been extended to two years past the substantial completion dates.

Q. CAN YOU PROVIDE US WITH A COPY OF THE AMENDMENT?

A. A copy of the Amendment is attached to my testimony as Exhibit No. ___ (SAB-3).

Q. BEFORE THE AMENDMENT, WHERE DID THE PROJECT STAND IN REGARDS TO THE POSSIBILITY OF LITIGATION?

A. When CB&I became the Consortium's construction lead in 2013, there was good reason to expect positive results. An operating division of CB&I, CB&I Services, had been on site for several years fabricating the containment vessels for the Units. After some initial quality issues that were quickly resolved, CB&I Services' work was consistently timely and of high quality. In its role as construction lead, however, CB&I did not succeed as expected in improving construction productivity on the site or resolving quality issues and timeliness issues at submodule suppliers.

At the same time, problems were surfacing between the Consortium partners. Internal Consortium agreements and interactions are confidential as to us. However, by mid-2015, disputes were spilling over into the supply chain and impeding action on important issues. The disputes seemed to be about who in the Consortium was responsible for paying for unanticipated costs in Fixed or Firm cost categories. Important matters were being delayed while the Consortium partners worked out their differences.

At the same time, the Consortium would not engage SCE&G and Santee Cooper in meaningful negotiations about the outstanding disputes we had with them. It seemed to us that CB&I and Westinghouse were avoiding negotiating with us rather than presenting us with a divided front.

We also understood that Consortium members were coming under financial stress because of the large payments SCE&G had begun to withhold in 2015. SCE&G did so to protect its rights under the EPC Contract and to put pressure on the Consortium to improve its schedule and efficiency performance. The Consortium disputed our right to withhold these payments. But in the end, we withheld payments worth over $135 million on a 100% basis.[3] It was not clear what the Consortium would do in response. But we considered litigation to be a likely result.

When we met in September of 2015, CB&I stated that in its opinion the project was headed toward litigation, certainly between the Consortium and Santee Cooper and SCE&G, and possibly between members of the Consortium itself. Going to litigation could have been highly damaging to the project.

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[3] Unless otherwise specified, all cost figures in this testimony are stated in 2007 dollars and reflect SCE&G's 55% share of the cost of the Units. The exception is the dollar amounts of liquidated damages and completion incentives, which are stated in future dollars at SCE&G's 55% share.

Q. WHY WAS AVOIDING LITIGATION IMPORTANT?

A. Construction projects succeed where commercial issues are managed effectively and communication is open. Those things typically do not happen when a project is in litigation. In addition, schedule mitigation plans are expensive and to some degree optional with the contractor. When parties are in a difficult commercial dispute, schedule mitigation can be held hostage to the litigation or become a bargaining chip. Had the project degenerated into litigation, reaching consensus on the required mitigation plans would have been very difficult.

Apart from the safety and quality of construction, one of SCE&G's principal objectives was the completion of the Units in time to qualify for all available federal production tax credits. The projected benefit of those credits is worth approximately $2.2 billion and will be passed on directly to our customers. Litigation would put the project's ability to receive those credits at greater risk.

Accordingly, a very important benefit of the Amendment is it diverted us away from litigation and the delays and disruptions that litigation would have produced. All parties can now focus on the success of the project, not on success against each other in the courtroom. In addition, the Amendment contractually rules out litigation until the project is finished. Given where we were before the negotiations, this is a very positive outcome for the project and a very important benefit to our customers.

Q. PLEASE EXPLAIN HOW THE AMENDMENT RULES OUT LITIGATION DURING THE PROJECT.

A. The Amendment establishes a three person dispute resolution board. All claims under the EPC Contract that the parties cannot work out go to that board. If a claim is under $2.75 million (SCE&G's 55% share, $5 million at 100%), then the decision of the board is final. If the amount exceeds $2.75 million, then the decision of the board is binding until the project is complete. After completion, a party may bring suit on the matter in court, but only then.

In addition, SCE&G is not required to pay any part of a disputed amount pending a decision of the board. Previously the EPC Contract required SCE&G to pay 90% of a disputed claim while the dispute was resolved. Instead, SCE&G will make a one-time $41.3 million deposit with Westinghouse, which will cover all disputed amounts pending the board's decision. The deposit will be credited to the final invoices at the end of the project.

Q. PLEASE EXPLAIN WHAT THE AMENDMENT ACCOMPLISHES IN TERMS OF RESTRUCTURING THE CONSORTIUM.

A. By purchasing Stone & Webster from CB&I, Westinghouse acquired full control of the project. Westinghouse is now responsible for all matters related to cost, efficiency and delay. It no longer matters whether the issues are related to design, engineering, equipment procurement, components or construction: Westinghouse is responsible. This simplifies decision-making and creates clear lines of accountability. Disputes among Consortium members can no longer be a source of friction and delay.

In addition, removing CB&I from the Consortium has allowed Westinghouse to hire Fluor as construction manager both for this project and for Southern Nuclear Company's ("SNC's") Vogtle project. Fluor is exceptionally well qualified for the job. Fluor's initial steps to improve productivity and schedule performance are encouraging.

Q. WHAT ARE FLUOR'S QUALIFICATIONS?

A. Fluor Corporation has been in business over 100 years and is ranked 155th among the Fortune 500. It employs 60,000 people worldwide with 2015 revenues of $18 billion.

Fluor has significant nuclear experience. Fluor has self-performed reactor construction for eight different nuclear plants, including V.C. Summer Unit 1. Additionally, the company has assisted in the construction of another ten nuclear units. Fluor has designed three nuclear plants itself. The company is part of a team decommissioning 27 nuclear reactors in the United Kingdom, and it is also the prime contractor at four Department of Energy nuclear sites, including the Savannah River Site located in Aiken, South Carolina. Through a subsidiary called NuScale, the company is also designing, developing, and marketing a next generation small modular reactor.

Fluor's non-nuclear power experience includes construction it self-performed at SCE&G's Fairfield Pumped Storage facility and engineering, procurement, construction and commissioning services for building the Cope and Jasper Generating Stations and for the Urquhart Plant Units 1 and 2 Repowering. Additionally, Fluor provided construction services for installing scrubbers and other major environmental upgrades on the Williams and Wateree Stations. This means Fluor has held major construction roles involving practically all of the large base-load generating facilities in SCE&G's system. Over the past five years, Fluor has managed over a dozen power sector megaprojects worldwide.

On a more subjective level, Fluor has been rated as one of the most ethical companies to do business with for ten years running. We found that very encouraging. They are good corporate citizens with deep roots in South Carolina. In its present form, the Company was created by the 1977 merger of Fluor Corporation and Daniel Construction Company of Greenville. Fluor currently has approximately 4,500 employees in South Carolina. Greenville is the headquarters for the nuclear division.

Fluor and its employees have contributed $3.3 million to community organizations, educational initiatives and programs in South Carolina. Additionally, volunteers contributed nearly 7,200 volunteer hours in the state. Fluor's commitment to municipal redevelopment in the Greenville area is one of the leading examples of corporate community responsibility in South Carolina. Fluor's Chairman and CEO is a graduate of the University of South Carolina, and the president of its power division is a graduate of The Citadel.

Q. PLEASE DESCRIBE THE TRANSITION PROCESS FROM CB&I TO FLUOR.

A. January 4, 2016, was the first business day following the effective date of the Amendment. At that time, a transition began through which CB&I's direct craft workers on the project became employees of Fluor. A number of CB&I's field engineering and other field non-manual employees did not transition to Fluor but went instead to a new Westinghouse subsidiary corporation named WECTEC. Westinghouse wants to keep these people on a Westinghouse subsidiary's payroll so that they will be available to support future Westinghouse AP1000 projects worldwide after this project is complete.

Q. WHAT HAS FLUOR DONE TO IMPROVE THE PRODUCTIVITY AND SCHEDULE PERFORMANCE OF THE PROJECT?

A. In November of 2015, just after the Amendment was signed, Westinghouse and Fluor identified 25 key work streams as important targets for improvement at both SCE&G's site and SNC's site. They convened work stream review teams to decide how to streamline processes, eliminate inefficiencies and identify means to increase the levels of productivity and accountability. SCE&G personnel and personnel from SNC's Vogtle project were assigned to a number of these teams.

Q. WHAT CHANGES HAVE BEEN IMPLEMENTED?

A. The initial results of these reviews were implemented in the first half of 2016. They include standardized and simplified work packages for nuclear island construction, streamlined processes for equipment transfers between suppliers and contractors, and processes to minimize design changes for module and submodule vendors. This is an on-going process. As reviews are completed, additional work flows are being added and additional teams are being convened.

It appears to us that Fluor is identifying needed changes to the construction program and pushing them through with focus, diligence and professionalism. We are pleased with Fluor's performance in its new role to date.

Q. PLEASE EXPLAIN WHAT THE AMENDMENT ACCOMPLISHES IN TERMS OF INCREASING INCENTIVES FOR TIMELY COMPLETION OF THE PROJECT.

A. The EPC Contract caps liquidated damages. At the time the Amendment was negotiated, one of the challenges we faced was that the completion dates for the Units had been pushed past the dates at which all of the available liquidated damages under the EPC Contract would have been earned.

As a result, when we began the negotiations, the Consortium was not facing any additional liquidated damages if the project were delayed beyond the projected completion dates. This was important because the forecasted substantial completion date for Unit 3 was only six months ahead of the deadline for qualifying for federal Production Tax Credits for that Unit. The Unit 2 date was 18 months ahead of the deadline. Meeting the tax credit deadline for Unit 3 was likely to require expensive schedule mitigation. The same could be the case for Unit 2 depending on future developments. There was no direct contractual incentive for the Consortium to invest in mitigation.

As a result, SCE&G and its customers faced the risk that the Consortium would allow the scheduled completion dates to slip past the tax credit deadlines rather than spend the additional money needed to prevent that from happening. In all, SCE&G and its customers stood to lose approximately $2.2 billion in projected benefits if neither Unit were to meet the deadline.

In the Amendment negotiations, we were able to address this problem. In those negotiations, Westinghouse told us that it recognized the great value represented by its AP1000 business and the need to complete our project successfully to protect that value and Westinghouse's reputation worldwide. Westinghouse was willing to take on substantial new commitments under the EPC Contract to accomplish those goals.

This may turn out to be a strategy for Westinghouse. In June of 2016, less than nine months after the Amendment was executed, Westinghouse announced that it is negotiating a contract to construct six AP1000 units in India. It is working on a similar proposal to construct three new AP1000 units at the Moorside nuclear power station on the west coast of England. We also understand that there is interest in AP1000 units in Europe where nuclear power is increasingly seen as an alternative to continued reliance on Russian natural gas. The AP1000 unit remains the safest, most technologically sophisticated and simplest nuclear unit available today.

In light of Westinghouse's business interests, we were able to convince Westinghouse to accept new liquidated damages that are capped at $371.8 million for the two Units. Of that amount, $137.5 million for each Unit (SCE&G's 55%

share, $250 million at 100%) is directly tied to that Unit meeting the deadline for receiving federal production tax credits.

The Amendment also provides for completion incentives. The completion incentives are paid by individual Unit and are tied to whether the Unit produces power in time to qualify for the production tax credits. If both Units do qualify, the total completion incentives would be $165.0 million (SCE&G's 55% share, $300 million at 100%).

Since these completion incentives have not yet been earned, they are not included in current BLRA forecasts. No Commission action is requested related to them in this proceeding.

We also had included in the EPC Contract a capacity bonus that would be paid if the Units were able to generate more electricity than had been guaranteed by Westinghouse. Westinghouse's engineers had upgraded certain components for the Units after the initial capacity commitments were made. Westinghouse was confident that capacity increases were likely and meaningful payments would be earned under these provisions. In the negotiations, we convinced Westinghouse to release the potential capacity bonuses.

As a result, the total of liquidated damages and completion incentives contained in the EPC Contract went from effectively zero on an incremental basis to $536.8 million at SCE&G's 55% share and approximately $1.0 billion on a 100% basis. These are meaningful numbers. They give Westinghouse a financial incentive to spend money to mitigate delays and keep the project on schedule to qualify for the Production Tax Credits that will be so valuable to our customers when they are earned.

Q. PLEASE DESCRIBE THE FIXED PRICE OPTION.

A. After the 2011 Amendment to the EPC, approximately two-thirds of the EPC costs were in either Fixed Price or Firm Price categories. Fixed Price items are not subject to any adjustment. Firm Price items are fixed in 2007 dollars and subject to escalation at rates that are either contractually fixed or are reported in published indices.

The remaining non-Fixed, non-Firm costs are found in the Target and Time and Material categories. Target costs include three labor-related categories:

(a) Direct Craft Labor, which represents work done directly on the Units;

(b) Field Non-Manual labor, which includes supporting staff such as clerical, field engineering, Quality Assurance and Quality Control, supervisory and safety personnel; and

(c) Indirect Craft Labor, which is labor that directly supports craft labor in the field and handles such matters as site sanitation and cleanup, traffic control, and distribution of commodities, materials, supplies, water and ice.

Time and Materials costs items include services that the Consortium provides under the EPC Contract in support of the Owner's obligations as owner of the project, holder of the NRC licenses and environmental permits and future operator of the Units. The Time and Materials cost category also includes the budget for such things as the cost of local sales taxes, import duties and insurance and the cost of the initial inventory of spare parts for the Units.

In the negotiations with Westinghouse, SCE&G was able to convince Westinghouse to provide us with an irrevocable option to move all remaining Firm, Target and Time and Material costs, except for $38.3 million of the Time and Material budget, to the Fixed Price category. The Fixed Price would be approximately $3.345 billion (future dollars) for all invoices paid after June 30, 2015. Any payments made after that date are credited to the Fixed Price amount. This is a fixed cost category with no escalation or other adjustment except for future change orders, if any.

As compared to the price presented in the last BLRA proceeding, the increase in the EPC Contract price under this Fixed Price option is $505.5 million in future dollars. This is a little less than 10% of the total EPC cost.

Q. WHY DO YOU REFER TO THIS AS A FIXED PRICE OPTION?

A. My use of the term "Fixed Price option" reflects the terminology used in the EPC Contract. We are transferring costs to the "Fixed Price" category as that item has been defined in the EPC Contract since 2008. Fixed Price items are items whose cost does not change for any reason except Owner-directed change orders or contractor change orders, which are allowed under the definition of Uncontrollable Circumstance contained in the EPC Contract.

Q. WHAT IS EXCLUDED FROM THE OPTION?

A. At SCE&G's request, the Fixed Price cost excludes several items within the Time and Materials budget that total approximately $38.3 million. Among these are import duties, sales taxes, performance bonds and warranty costs. SCE&G believes it can manage these costs as well or better than Westinghouse and thus has not sought to have Westinghouse fix a price for them.

The spare parts and equipment budget is also excluded. Westinghouse is working to create a definitive list of the spare parts and equipment inventory that must be available to ensure safe and reliable operations of the Units. The parts list has not been finalized. To reduce the cost of these parts, SCE&G is working with SNC to create a shared repository of critical parts and equipment. SCE&G was not inclined to let Westinghouse fix a price for this parts list sight unseen. Instead, SCE&G wanted to ensure that it receives all the parts and equipment it needs and at the lowest possible cost. For that reason, SCE&G asked to keep the cost of spare parts individually budgeted in Time and Materials.

Apart from these items, the Fixed Price option sets a price of $3.345 million (future dollars) for all of the remaining work under the EPC Contract. The new price will be subject to future change orders, whether due to Uncontrollable Circumstance (as defined in the EPC Contract) or for Owner's convenience. This is in keeping with standard practice in large project contracts. Fixed price contracts for a large construction project commonly provide that contractors are entitled to change orders where uncontrollable circumstances are encountered. To ask contractors, in effect, to insure the project against unknown risks is not standard practice and the prices involved are difficult to estimate. However, as discussed below, we have sought to tighten up the standards for establishing uncontrollable circumstances in ways that will help the project and SCE&G's customers.

The Fixed Price also does not cover SCE&G's costs as Owner. These include the cost of the NND effort, as well as Transmission costs. However, with these limitations, the Fixed Price option sets a definitive price to complete the work as currently envisioned under the EPC Contract.

Q. HAS SCE&G DECIDED TO EXERCISE THIS OPTION?

A. By letter dated May 24, 2016, SCE&G informed Westinghouse that it intended to exercise this option. There were two conditions to this approval becoming final. By its terms, the exercise of the option is subject to regulatory approvals, which would include approval by this Commission. The other is formal authorization from our co-owner Santee Cooper. Santee Cooper provided that authorization on June 30, 2016.

Q. PLEASE EXPLAIN THE BASIS ON WHICH SCE&G DECIDED TO EXERCISE THE OPTION.

A. In making the decision to exercise the option, SCE&G considered three types of information. First, we considered the information we received from Fluor during the first half of 2016 and earlier as Fluor's construction experts assessed the project and began to implement mitigation plans. Second, we considered our own experience with the project both before and after Fluor came into the picture. Third, we considered the sensitivity study Dr. Lynch performed related to the value of exercising the option. Each of these sources of information strongly supported exercising the option.

Q. WHAT DID YOU LEARN FROM YOUR INTERACTION WITH FLUOR?

A. Since the Amendment was signed, we have been closely following Fluor's approach to improving schedule performance and labor productivity on site. Fluor has already made very helpful changes in work flows and management. But these changes are clearly not enough to solve current schedule and productivity issues by themselves. Fluor has recognized this and is recruiting, hiring and training an expanded construction workforce to accelerate the construction schedule. Specifically, a limited-scope night shift of approximately 300 craft workers is already in place. Fluor is actively working to expand it to a full-scope night shift of more than 1,000 craft workers.

Expanding the workforce in this way shows Fluor understands that it will require more workers working more hours than forecasted to complete the project on schedule. This means higher labor costs, which absent exercise of the Fixed Price option will be passed on to SCE&G and its customers. In addition, adding a night shift, in itself, generally increases costs. Fluor's actions to date indicate that costs will rise to meet schedule commitments.

Q. WHY DOES ADDING A NIGHT SHIFT INCREASE COSTS?

A. Attracting workers to a night shift will require Fluor to pay them a premium. In addition, workers on a night shift need supervision and support just like their counterparts on the day shift. Therefore, adding a night shift requires staffing a night shift of Field Non-Manual personnel and Indirect Craft Labor to provide that support. These additional shifts of support personnel represent additional costs to the project.

Q. WHAT IS YOUR CURRENT EXPERIENCE CONCERNING THE PER-UNIT COST OF LABOR AT THE PROJECT AND THE POTENTIAL FOR ESCALATION THERE?

A. Demand for construction workers is increasing with the improving economy. With the ongoing retirements of coal-fired plants, and the need to deliver newly discovered supplies of shale gas to market, a number of new gas pipelines are being built. Demand for gas pipeline workers is particularly high. Pipeline projects compete with nuclear projects for many of the same workers, especially highly skilled welders and heavy equipment operators. Currently, Fluor is hiring and training new workers at an accelerating pace to mitigate schedule delays. But Fluor is also losing trained workers from the project to other opportunities in significant numbers. Work force retention is now an important limiting factor in Fluor's plan to mitigate the construction schedule.

Q. WHAT ARE THE IMPLICATIONS OF WORKFORCE ATTRITION AND RETENTION ISSUES FOR PROJECT COSTS?

A. Increased workforce attrition means increased recruiting and training costs. To improve retention of workers on-site, Fluor will likely need to offer additional pay and benefits. Absent SCE&G exercising the Fixed Price option, these additional costs will be passed to SCE&G and its customers as Target costs. Taking all of these factors together, I believe that the additional labor costs associated with mitigating the construction schedule are likely to significantly impact the cost to complete the project.

Q. AS TO THE VALUE OF EXERCISING THE OPTION, WHAT DID YOU LEARN FROM YOUR OWN EXPERIENCE WITH THE PROJECT?

A. The initial 2008 cost projections for the project were based on a productivity factor of 1.0. This meant that the Consortium projected that the units of labor needed to complete this project would be the same as the units of labor needed to complete similar tasks on standard, non-nuclear construction projects. The cost projection provided by the Consortium in 2014 was based on a labor productivity factor of 1.15 or 15% higher than the initial projection.

To date, the project has not been able to meet either the 1.0 or 1.15 productivity factors for any sustained period. The cumulative productivity factor since the project began is approximately 1.75.

We have computed the labor productivity factor that Fluor and Westinghouse must achieve from January of 2016 forward to have actual costs to SCE&G come in less than the Fixed Price, all other things being equal. That labor productivity factor is 1.15. We expect construction to become more efficient under Fluor and with a restructured project team. But it is unlikely that productivity will improve fast enough for the remaining work on the project to be completed at a productivity factor of 1.15 or below. Our experience with the project to date makes us believe that it is highly unlikely that Fluor and Westinghouse can bring the productivity factor to 1.15 or lower measured between January 1, 2016, and the end of the project. This tells us that, all other things being equal, exercising the Fixed Price option is best for the Company and its customers.

Q. PLEASE EXPLAIN DR. LYNCH'S SENSITIVITY STUDY AND THE ASSUMPTIONS UNDERLYING IT.

A. We asked Dr. Lynch to run a sensitivity analysis to show how SCE&G's costs under the EPC Contract might vary if we did not exercise the Fixed Price option. The first step was to identify the proper variables to model. We examined the cost categories in the EPC Contract for which SCE&G is at-risk and what drives costs in those categories. Based on this analysis, we determined that Dr. Lynch's analysis could focus on two critical variables: Direct Labor productivity and escalation in labor rates.

Q. PLEASE EXPLAIN WHAT THESE FACTORS MEASURE.

A. There are two factors involved in labor costs: units of labor and labor costs per unit. The equation is simple. Costs equal units of labor times costs per unit.

Anything that increases the units of labor needed to complete the project increases the labor productivity factor. Therefore, the labor productivity factor captures in one number all the things that can increase labor requirements for a project by delaying, frustrating or complicating a construction plan. For that reason, it is possible to analyze the effect of all factors that result in a change in amount of labor required to complete the project by varying one number, the labor productivity factor.

The second variable in Dr. Lynch's analysis is the per-unit cost of labor. As indicated above, there is reason to believe that Fluor and Westinghouse will need to increase pay and benefits to attract and retain the expanded workforce they need to mitigate schedule delays. This will increase per-unit labor costs. In Dr. Lynch's study, we sought to measure what outcomes were possible under reasonable assumptions concerning possible future changes in per-unit labor costs and productivity factors.

Q. WHY IS IT POSSIBLE FOR DR. LYNCH TO MODEL POSSIBLE FUTURE VARIATION IN EPC CONTRACT COSTS BY FOCUSING ON LABOR-RELATED VARIABLES ONLY?

A. The EPC Contract contains four principal groupings of cost for pricing purposes: Fixed Price costs, Firm Price costs, Time and Materials costs, and Target Price costs.

Costs in the Fixed or Firm Price categories are set in 2007 dollars, either with no escalation, or escalation set at a specified or indexed rate. Apart from change orders, indexed escalation is the only source of variation in these costs. Where indexed escalation applies, the current estimates of inflation are built into the existing cost forecasts in those categories. Accordingly, cost variation coming from the Fixed or Firm costs categories is not likely to be material, especially when compared with the possible changes in cost categories which are not Fixed or Firm.

All non-Fixed or non-Firm costs are found either in the Target Price category or the Time and Material category. The Time and Material category is very small and represents 1.1% of the EPC Contract remaining to be spent. The Target price category represents the great majority of the non-Fixed or Firm costs. Approximately eighty percent (80%) of the costs within the Target Price category are labor costs. Therefore, SCE&G's cost risks under the EPC Contract, absent exercise of the Fixed Price option, are concentrated in the labor costs found in the Target Price cost category.

Q. PLEASE DESCRIBE THE LABOR COSTS CATEGORIES THAT MAKE UP THE TARGET COSTS.

A. The three specific cost categories that are part of Target Price costs are Direct Craft Labor, Indirect Craft Labor, and Field Non-Manual Labor. Direct Craft Labor is the labor directly involved in tasks that build the Units. Indirect Craft Labor and Field Non-Manual Labor are work that supports Direct Craft Labor. Because Indirect Labor and Field Non-Manual labor support Direct Craft Labor, the principal driver of changes in Indirect Labor and Field Non-Manual utilization is a change in Direct Labor productivity. Therefore, it is standard practice in the industry to measure the amount of Indirect Labor and Field Non-Manual Labor required for a project by applying a ratio of these items to Direct Craft Labor. For example, a standard measure of Indirect Labor might be that 0.6 units of Indirect Labor are required to support each unit of Direct Craft Labor. Applying such ratios to the units of Direct Labor generates the required units of Indirect Labor and Field Non-Manual labor. In this way, the amount of labor needed to support direct construction work varies automatically with changes in the amount of labor devoted to direct construction work.

We asked Dr. Lynch to use these same approaches in his analysis. In the model he used, the units of Indirect Labor and Field Non-Manual vary proportionally to changes in Direct Labor units. In this way, the effect of varying productivity rates for Direct Labor flows directly through to the calculation to determine the units of Indirect Labor and Field Non-Manual Labor that will be required.

Q. WHAT RANGE OF VARIABLES DID YOU ASK DR. LYNCH TO MODEL?

A. At the lower end of the spectrum (most efficient), we asked Dr. Lynch to model labor costs at a productivity factor of 1.0 which is the factor on which the initial cost projections were based in 2008. Based on our experience to date, and what we know of Fluor and Westinghouse's plans going forward, achieving a Direct Labor productivity factor as favorable as 1.0 over the remaining course of the project would be highly unlikely.

Also at the low end of the range, we asked Dr. Lynch to model the productivity factor used in the 2014 Consortium cost projections of 1.15. It is the stated goal of Westinghouse to reach this productivity factor over the remaining years of the project. That is a worthy goal. But given what we know today, it would seem unlikely that it can be reached since schedule mitigation is the predominant concern going forward. Schedule mitigation will likely involve additional labor and therefore less favorable labor productivity than would otherwise be the case.

At the upper end of the range of the analysis, we asked Dr. Lynch to model a productivity factor of 2.0. That value reflects an approximate doubling of the size of the construction workforce as compared to initial projections. After careful review, it is our conclusion that it is feasible for a workforce of that size to be recruited and trained and to work efficiently on site. With skillful construction management and vigilant quality assurance and quality control, and absent unforeseen challenges, we believe that a workforce of that size should be able to overcome the reasonably foreseeable challenges involved in meeting the GSCDs.

To create a representative range of values, we also asked Dr. Lynch to model each of the productivity rates which lie at 0.25 increments between productivity factors of 1.0 and 2.0.

As to per-unit labor cost rates, we asked Dr. Lynch to model scenarios assuming that the unit cost of labor varied by 0%, 2.9%, 5% or 7% cumulatively over the course of the project. It was our judgment that while labor rates will likely need to increase above current estimates (which already include an escalation factor based on current expectations), it was unlikely that these rates would increase cumulatively by as much as 7% over the life of the project. It was not at all likely that labor will remain constant over the life of the project compared to the initial projections.

Q. WHAT IS YOUR OPINION CONCERNING THE RESULTING RANGE OF VALUES?

A. It is my judgment that a sensitivity analysis which measures costs over this band of values captures the foreseeable range of potential changes in EPC costs that SCE&G and its customers would face absent SCE&G exercising the Fixed Price option. As a result, Dr. Lynch's analysis accurately measures the potential value of the Fixed Price option to SCE&G and its customers.

Q. WHAT WAS THE RESULT OF DR. LYNCH'S SENSITIVITY ANALYSIS?

A. The resulting sensitivity analysis is attached to Dr. Lynch's testimony as Exhibit No. __ (JML-1). It is my opinion that the construction and engineering assumptions it reflects are reasonable and accurate.

The analysis compares the cost to complete the Units without the Fixed Price option to the cost if the Fixed Price option is exercised. It presents results for 24 possible combinations of factors. In only four of the 24 scenarios was it cheaper to forego the Fixed Price option. In three of these four scenarios, Westinghouse and Fluor would need to achieve a 1.0 direct labor productivity factor over the remaining life of the project for that to be the case. We believe that is practically impossible and know it to be inconsistent with the schedule mitigation plans that Fluor is putting in place today which will result in higher (less favorable) productivity rates than previously forecasted. The fourth scenario involves a productivity factor of 1.15, which is itself highly unlikely. But it also assumes that labor prices remain constant over the remaining life of the project. We are unaware of any reason to expect that this will occur. All indications are that per unit labor costs will be forced upward as Fluor seeks to execute its current schedule mitigation plan, which will require maintaining a greatly expanded workforce on site.

The remaining 20 scenarios show that it is cheaper for SCE&G and its customers if SCE&G exercises the Fixed Price option. Based on our experience with the project, the most likely six scenarios are those where productivity factors are in the range of 1.50, 1.75 and 2.00, and labor cost growth rates of 2.9% and 5%. Within this range of values, exercising the Fixed Price option would reduce the EPC Contract cost, net of future change orders, by between 10.9% and 29.3%.

It is my judgment that this analysis accurately reflects the key drivers of cost that are relevant to the decision to execute the Fixed Price option. The results unequivocally support the prudence of exercising the Fixed Option, and the benefit that this will provide SCE&G and its customers in the form of greater price security and ultimately a lower price.

Q. PLEASE EXPLAIN THE SITUATION REGARDING EQUIPMENT WARRANTIES AT THE TIME OF THE NEGOTIATIONS.

A. At the time of the negotiations, delays had pushed the substantial completion dates for the Units out in such a way that a number of the key equipment and component warranties would have begun to run before the Units were placed in service and could have expired before there had been sufficient time to identify any issues that needed to be corrected. At one juncture, Westinghouse had indicated that the cost of extending these warranties could be as much as $66 million. Under the Amendment, the equipment warranties will begin to run upon substantial completion. In the Amendment, Westinghouse agreed to provide equipment warranties related to the Units tied to the actual completion dates achieved by the project.

Q. **PLEASE EXPLAIN WHAT THE AMENDMENT ACCOMPLISHES IN TERMS OF RESTRUCTURING THE EPC CONTRACT TO AVOID FUTURE DISPUTES.**

A. I have already discussed the new dispute resolution board and the provisions of the Amendment that rule out litigation until after the project is complete. In addition, the Amendment makes a number of other changes in the EPC Contract to limit future disputes. Some of the most important ones are as follows:

The Change in Law Provisions. The Change in Law provisions of the EPC Contract have been the basis of a number of claims by the Consortium for change orders authorizing additional payments when they have encountered unanticipated decisions or guidance from NRC staff and inspectors that increased costs. We have disputed those claims. The Amendment revises the EPC Contract to make it clear that Westinghouse is entitled to a change order only if a change in law or regulation is embodied in a statute or a formal, written regulatory pronouncement. If the change in law is NRC-related, it must be announced through one of a specified list of formal agency pronouncements. Interpretations or staff opinions do not qualify as the Consortium had sought to assert in the past.

Design Control Document Revision No. 19. When the EPC Contract was signed in 2008, the NRC had approved the design of the AP1000 unit through Design Control Document Revision No. 15 (DCD Rev. 15). It was understood that additional revisions would be required to meet new NRC aircraft impact rules and to incorporate other design modifications identified by Westinghouse. These changes were incorporated in DCD Rev. 19 which was issued in 2011. The COL for the Units was issued in 2012 and was based on DCD Rev. 19.

In several instances, Westinghouse has sought to argue that because of this chronology it was only contractually required to provide supporting software, documentation and other material reflecting the AP1000 design up to DCD Rev. 15. Under the Amendment, the language in the EPC Contract makes it clear that materials conforming to all changes in the design of the AP1000 unit, up to and including DCD Rev. 19, are required without additional change orders.

New Milestone Payment Schedule. As discussed above, a source of past disputes with the Consortium has been the calendar-based payment schedule for certain costs under the EPC Contract. Going forward, all payments will be tied to Westinghouse accomplishing specific construction milestones or other measures of actual progress. This not only eliminates a source of dispute, but also creates a cash-flow incentive for Westinghouse to meet the construction schedule.

During the transition to the new milestone payment schedule, SCE&G is making payments of $55.0 million per month. These payments will be trued up against invoices for work during the period and against the Fixed Price amount of

$3.345 billion. Once the new construction milestone payment schedule is finalized, future payments will be based on that schedule. If the payment schedule cannot be produced by agreement, then the dispute resolution board will mediate the matter.

These changes in the payment schedule are very valuable from SCE&G's perspective. They will serve to minimize the claims by Westinghouse going forward and will minimize future distraction related to commercial disputes. Tying payments to construction milestones also creates a strong incentive for completing major scopes of work and improving schedule performance.

Q. PLEASE EXPLAIN WHAT THE AMENDMENT ACCOMPLISHES IN TERMS OF RESOLVING EXISTING DISPUTES BETWEEN THE PARTIES.

A. When the negotiations took place, it was clear from the perspective of the negotiating team that the project could not avoid litigation without resolving outstanding issues concerning disputed invoices, change orders, and change order notices. Nor was it likely that CB&I could leave the project with major unresolved claims on the table, and without quantifying what its costs would be in leaving. In negotiating the Amendment, we excluded only ten items, which are listed on Exhibit C to the Amendment. These items were subject to ongoing negotiations and quantification of scope and amount. They will be submitted to the dispute resolution board if the parties cannot resolve them quickly.

Q. WHAT MATTERS WERE RESOLVED?

A. Among the matters resolved were invoices we disputed in whole or in part on productivity and efficiency grounds, payments we had withheld due to timing issues, costs we believe never should have been billed to us including costs associated with structural module delays, and disputed costs associated with change orders or their precursors, notices of changes. Mr. Kochems will provide the accounting details about these matters. I can provide a view of these matters from the negotiating team's perspective.

Q. COULD YOU PLEASE DESCRIBE THE ISSUES RELATED TO PRODUCTIVITY AND EFFICIENCY CHALLENGES?

A. One group of challenged costs involved invoices that SCE&G and Santee Cooper refused to pay based on productivity concerns. As I indicated earlier in my testimony, beginning in June of 2015, for each invoice involving Target labor, we calculated an alternative invoice by applying the labor productivity factors and labor efficiency ratios that the Consortium used in its original project cost forecasts. (Labor efficiency ratios are the ratios of Indirect Labor and Field Non-Manual labor associated with Direct Craft Labor.) We disputed the difference between the actual and alternative invoices, and withheld 10% of the disputed amount as the EPC Contract provided.

Q. WHAT WAS THE CONSORTIUM'S POSITION?

A. The Consortium argued that the productivity and efficiency ratios that it used in preparing the prior forecasts were estimates only and SCE&G and Santee Cooper were contractually at risk to pay actual costs. In response, SCE&G and Santee Cooper argued that the EPC Contract contained terms requiring the Consortium to construct the Units using "Good Industry Practice," which encompasses "the practices, methods, standards and acts engaged in and generally acceptable to the nuclear power industry in the United States." SCE&G and Santee Cooper asserted that the failure by the Consortium to achieve its earlier productivity and efficiency estimates was the result of the Consortium's failure to use Good Industry Practice.

The Consortium countered that it was following Good Industry Practice but was hampered by the new NRC licensing structure, the lack of an established supply chain for new nuclear construction, and first-of-a-kind issues related to the AP1000 design. Those are the principal arguments that would have been taken into litigation had the Amendment not resolved these disputes.

Q. HOW WERE THESE ISSUES RESOLVED?

A. In the end, disputing these amounts was effective in bringing financial pressure on the Consortium to correct its productivity and efficiency issues. However, there was never any assurance that if the matter was litigated a court would have attributed 100% of the disputed costs to the Consortium's failure to use Good Industry Practice. By the time the Amendment was signed, we had withheld payments of $6.7 million and disputed payments of an additional $60.6 million. All of these claims were resolved by the Amendment.

Q. COULD YOU PLEASE DESCRIBE THE RESOLUTION OF ISSUES RELATED TO INVOICES DISPUTED DUE TO TIMING?

A. A second set of disputed items involved payments SCE&G and Santee Cooper withheld from the Consortium entirely due to timing. I mentioned these disputes earlier in my testimony. They involved $67.6 million in Fixed Price and Firm Price invoices that were tied to calendar-based payments under the EPC Contract.

SCE&G returned these invoices unpaid arguing that sufficient work on the site had not been completed to justify payment. There was no express language in the EPC Contract authorizing this although certain schedules attached to the EPC Contract did support our claim. Our principal grounds for withholding these payments were that the Consortium was in violation of the Good Industry Practices standard as to the management of the project. The Consortium vehemently disputed our approach.

In the negotiations to settle these matters, both parties recognized that these were Fixed and Firm cost items, the disputes about these costs were timing disputes only, and SCE&G would pay these costs at some point. The Amendment resolved this dispute by providing for a new, milestone-based payment schedule to replace the calendar-based schedule that applied earlier. Payments under the new milestone-based schedule will bring the payment stream in line with construction progress.

Q. COULD YOU PLEASE DESCRIBE THE ISSUES RELATED TO IMPROPERLY BILLED COSTS?

A. Going back a number of years, SCE&G and Santee Cooper have disputed invoices which included costs billed as Target cost that SCE&G and Santee Cooper believed were associated with Fixed or Firm scopes of work or where prior change orders covered them. For example, the Consortium attempted to bill SCE&G for submodule and mechanical rework done on site using Direct Craft construction labor, even though submodule production is a Fixed Cost item. SCE&G returned the invoices unpaid. In addition SCE&G and Santee Cooper entered into Change Order 16 to resolve all costs associated with structural module delays. On that basis, SCE&G and Santee Cooper returned invoices for the cost of on-site storage of equipment that would not have been required but for the structural module delays. Similar claims were made related to the escalation-related costs that were associated with payments that were delayed due to structural module delay. The total amount of costs in this category is $13.7 million.

Q. COULD YOU PLEASE DESCRIBE THE ISSUES RELATED TO OUTSTANDING CHANGE ORDERS AND NOTICES OF POTENTIAL CHANGES?

A. A fourth group of payment disputes related to a number of change orders and notices of potential change orders that were outstanding at the time of the Amendment. These items are among the 30 specific claims, change orders or other commercial items listed as being resolved on Exhibit A to the Amendment. They include the costs associated with Cyber Security upgrades; Site Layout Changes Phases 1 & 2 (physical security related); support for First-of-a-Kind and First-Three-of-a-Kind AP1000 Testing; and the cost of the Schedule Mitigation for Shield Building Panels at NNI. The total value of the Consortium's claims at issue in these matters is $145.6 million. This amount includes the costs associated with the warranty extension of $66 million that is discussed above.

Q. HAS SCE&G ATTEMPTED TO VALUE THE RESOLUTION OF CLAIMS?

A. Yes. We have calculated that the Consortium's quantifiable claims against us were worth $224.4 million to the Consortium, and would be worth more if non-quantifiable claims were included. The $224.4 million figure only includes claims by the Consortium that we could quantify with reasonable certainty given the data provided by the Consortium at the time of the negotiation. The amount would be much higher if the Consortium's claims that had yet to be itemized and quantified at the time of the negotiations were taken into account. This $224.4 million figure is also a net amount. It includes an offset for the Consortium invoices we disputed. We included what we believe to be a very reasonable valuation of those claims.

Q. PLEASE ELABORATE.

A. Mr. Kochems will testify in more detail about this valuation. As to Westinghouse's claims against SCE&G, we included in the $224.4 million valuation only Westinghouse's claims that were invoiced with sufficient supporting data to be accurately quantified. Exhibit A to the Amendment lists 30 specific change orders and other claims that were resolved by the Amendment. Only twelve of those 30 claims met our standards for quantification, and only these twelve were included in our calculations. Although the other 18 items included potentially large claims by the Consortium, we did not quantify them in our valuation. This makes the $224.4 million valuation conservative and low. In addition, over the course of the project Westinghouse had issued to SCE&G 35 other notices of change that had not advanced to the point of being listed as definitive claims on Exhibit A. We did not quantify these claims in computing the $224.4 million valuation.

As to SCE&G's claims against Westinghouse, we gave ourselves credit for 100% of the amounts we withheld from payment due to productivity, delay or efficiency challenges, structural module delay or other causes. We assumed that the amounts not withheld, specifically the 90% of the disputed amounts related to productivity and efficiency, were resolved 50%/50%. Again, this is a reasonable assumption given the challenges of prevailing 100% on these claims.

The result of netting all of these claims and counterclaims is this: The Amendment, which resulted in a $137.5 million increase in EPC Contract price and included many other kinds of benefits, resolved quantifiable claims worth $224.4 million, and unquantified claims would have raised this amount even higher.

The total value of all of the claims resolved cannot be specifically computed, since they were resolved before the Consortium had quantified them. However, when the Amendment was signed, CB&I announced that it would take an approximately $1.0 billion charge after taxes for losses associated with its exit from the new nuclear construction business.

Q. IS THERE A SPECIFIC PART OF THE COST OF THE AMENDMENT THAT SCE&G AND SANTEE COOPER CAN IDENTIFY AS THE AMOUNT PAID TO RESOLVE THESE CLAIMS?

A. No. There was never a point in the negotiation where we took up the disputed payments, claims and change orders separately from other issues and sought to negotiate a resolution to them in isolation. Instead, we negotiated very aggressively with Westinghouse to determine what we could convince Westinghouse to accept in exchange for SCE&G and Santee Cooper agreeing to release CB&I from the Consortium. It worked to our benefit that Westinghouse was strongly motivated to restructure the Consortium and put the project in a position in which its success would support Westinghouse's efforts to market the AP1000 unit worldwide. That motivation, in part, resulted in what we believe is a good deal for us and our customers.

Q. PLEASE EXPLAIN.

A. When the negotiations were completed, Westinghouse had subjected itself to revised liquidated damages of $676.0 million on a 100% basis, and SCE&G had secured the opportunity to move substantially all remaining costs of the project into the Fixed Cost category. Dr. Lynch's study shows that this benefit alone could be worth between approximately $363.0 million and $981.0 million before the project is concluded. We also made important changes in the EPC Contract that favor SCE&G and its customers and cut off a range of potential future claims by Westinghouse based on changes in law or the late adoption of DCD Rev. 19. We changed the payment schedule for the project so that going forward Westinghouse will not get cash until it completes important scopes of work. This change both protects us financially and provides Westinghouse with a strong incentive to work efficiently to get paid. We resolved critically important warranty issues. We obtained a new structure for dispute resolution that removes Westinghouse's ability to tie the project up in court if things do not go according to Westinghouse's liking. We secured the changes needed to allow the Consortium to be restructured and Fluor to be hired. And we persuaded the Consortium to settle practically all outstanding claims.

It took a great deal of negotiation to secure these benefits. But ultimately, we were able to obtain Westinghouse's agreement to this entire package of benefits for an increase in the EPC Contract price of $137.5 million (SCE&G's 55% share, $250 million at 100%). During the negotiations, there was never a point at which the disputed claims and change orders, which we quantify at $224.4 million or more, were negotiated on a stand-alone basis. The Amendment was negotiated as a package. Its costs and benefits were considered as a package. The EPC price increase was amount was negotiated as a lump sum amount.

The Amendment must be evaluated as a whole because that is how it was negotiated. From SCE&G's perspective and that of its customers, $137.5 million was a reasonable price to pay to settle these outstanding claims and to obtain the other benefits of the Amendment.

CHANGE ORDERS

Q. PLEASE DESCRIBE HOW CHANGE ORDERS WILL BE HANDLED UNDER THE AMENDMENT.

A. As discussed previously, the Amendment resolved most of the change orders and notices of change outstanding as of December 31, 2015. But not all such items were resolved. Eleven claims or change orders that were not resolved in the Amendment have now been quantified and itemized. The costs associated with them have been added to the cost forecasts for the project under the terms of the BLRA.

Q. PLEASE DESCRIBE THE CHANGE ORDERS WHICH ARE PRESENTED HERE FOR INCLUSION IN COST FORECASTS.

A. In all, eleven potential change orders are presented here for inclusion in the capital cost forecasts for the Units. Mr. Kochems will describe all eleven. I will review the five potential change orders with the largest cost impact.

Site Layout Changes Phase 3. Part of finalizing the physical configuration of a nuclear unit is reviewing the final placement and design of buildings, site layout and other features to identify the changes and improvements that are required to support the physical security of the site. This work is being undertaken in three phases. The Amendment covered the costs of Phases 1 and 2. At the time of the negotiations, SCE&G was working with Westinghouse to quantify the costs associated with Phase 3, which includes security modifications to the structures and buildings on the site, as well as the installation of additional security equipment.

SCE&G has now quantified the amount of the costs that will be associated with Phase 3 of this work. That amount is approximately $29.6 million.

Plant Security Systems Integration. The EPC Contract provides for independent plant security systems for each Unit. These represent the software and other systems used to provide physical security to the Units and respond to security events. SCE&G has requested that Westinghouse integrate the two plant security systems so that they operate as one single functioning plant security system. This will greatly simplify operations, improve response times and reduce the cost of maintenance and testing going forward. SCE&G has quantified the additional cost to be approximately $7.1 million.

Service Building Third Floor. SCE&G has reevaluated its facilities requirements in light of emerging data concerning anticipated staffing levels of the Units when in operation and their maintenance and operational support requirements. This reevaluation identified the need to expand the Unit 2 and 3 Service Building to provide additional shop space for the mechanical, electrical and instrumentation and control groups, as well as additional space to accommodate the site management and plant engineering support groups. This expansion will be accomplished by adding a third story to the building. SCE&G has quantified the cost of the expansion at approximately $6.9 million.

Training Staff Augmentation. SCE&G has requested a Change Order from Westinghouse for the costs of Westinghouse staff to augment the V.C. Summer Units 2 and 3 Project NND Operations Training group. The change order would cover the cost of a number of AP1000 Senior Reactor Operator ("SRO") certified operations training instructors. These additional personnel are required to ensure that sufficient reactor operators and other staff can be trained and licensed on a schedule that supports initial fuel load for the Units. SCE&G has quantified the cost of the additional training personnel at approximately $4.4 million.

Escrow—Software & Documentation. Under the EPC Contract, SCE&G has the right to require Westinghouse to deposit the source code associated with certain software for operating and maintaining the Units as well as certain facility documentation with a third party escrow agent. The escrow secures SCE&G's right to access the source code and documentation if needed in the future. Under the EPC Contract, SCE&G is responsible for the cost associated with establishing and maintaining the escrow. SCE&G has exercised its right to require this escrow. SCE&G has quantified the cost of establishing the escrow to be approximately $3.0 million.

These are the five largest change orders included in the cost schedule updates in this filing. There are six other change orders, which Mr. Kochems will present in his testimony. All of them represent reasonable and prudent costs of the project. These changes orders are all necessary for successful completion of the project for the benefit of our customers.

OWNER'S COST UPDATES

Q. PLEASE DESCRIBE HOW THE OWNER'S COSTS ARE CATEGORIZED.

A. Owner's Costs include SCE&G's costs as Owner for such things as site-specific licensing and permitting of the Units; regulatory costs such as NRC fees; insurance, including workers compensation insurance for all workers on site, builder's risk insurance and transportation risk insurance; construction oversight and contract administration costs; the costs of recruiting and training of operating personnel for the Units; the costs of conducting the final acceptance testing of the Units and providing for interim maintenance of components of the Units as completed; the cost of NND facilities, information technology systems and equipment to support the project and the permanent staff of the Units; sales taxes; and other incidental costs for the site.

Q. WHAT PART OF THE COSTS INCLUDED IN THESE UPDATES ARE OWNER'S COSTS?

A. As Mr. Kochems testifies, updates in Owner's cost forecasts represent $20.8 million of the requested updates. Of these costs, $15.6 million are associated with the changes in schedule. $8.0 million are associated with the additional costs of providing project oversight under Fluor's new project management structure and the work schedule that will include a full night shift and additional scheduled overtime. Other changes in Owner's costs, positive and negative, across all of the cost centers that support the project, when netted against each other, result in a $2.8 million reversal of costs, *i.e.*, a cost decrease. The resulting Owner's cost forecast presented here represents the reasonable and prudent costs of fulfilling our responsibilities as the Owner of this project.

Q. WHAT ARE THE BUSINESS REASONS FOR THE OWNER'S COST INCREASE?

A. As Mr. Kochems testifies in more detail, the majority of these Owner's cost increases are a result of the delay in the substantial completion dates of the Units. Personnel costs and other support costs cease to accrue to the capital cost of each Unit when that Unit is placed in service. The delay in the substantial completion date for each Unit means that such costs will accrue to each Unit's capital cost for approximately two additional months.

Additional labor-related costs represent $11.0 million in delay-related, or approximately 71% of the $15.6 million increase in Owner's costs due to delay. Non-labor related support costs make up the balance. They include items like insurance, Information Technology support, facilities, and NRC fees. These non-labor items will increase by approximately $4.6 million due to the delay.

The Owner's cost increase also includes increases in personnel costs, facilities costs, additional software and equipment costs and other expenses that must be incurred for SCE&G to meet its obligations as Owner and COL licensee in a reasonable and prudent way. The addition of a night shift to the construction project will require SCE&G to increase its oversight expenses, since Owner's personnel will need to be on site to support and oversee an additional work shift. In addition, Fluor is implementing a new centralized construction management organization. SCE&G intends to field a parallel organization to provide Owner's oversight to the project on the same basis. .

A mixed group of other changes in Owner's costs results in a reduction of budgeted costs, principally related to reductions in staffing or delays in hiring. Netted together, these increases and decreases result in a new Owner's cost forecast that is $20.8 million higher than the amount previously approved.

Q. DO YOU HAVE AN OPINION CONCERNING THE REASONABLENESS AND PRUDENCE OF THESE ADJUSTMENTS TO OWNER'S COST?

A. For the reasons set forth in this testimony, as well as those set forth in Mr. Kissam's and Mr. Kochems' testimony, it is my opinion that the adjustments in the forecasts of Owner's costs for the NND project are reasonable and prudent costs of the Units. In my role as President of SCE&G for Generation and Transmission, I am familiar with the process by which these Owner's cost forecasts were created and the work that has gone into ensuring that the costs they reflect are reasonable and prudent costs of the project. It is my firm opinion that these costs reflect a necessary and valuable investment that the Company is making to protect the interest of its customers in these long-lived assets, as well as those of our partner Santee Cooper. They are prudent in every respect.

CONCLUSION

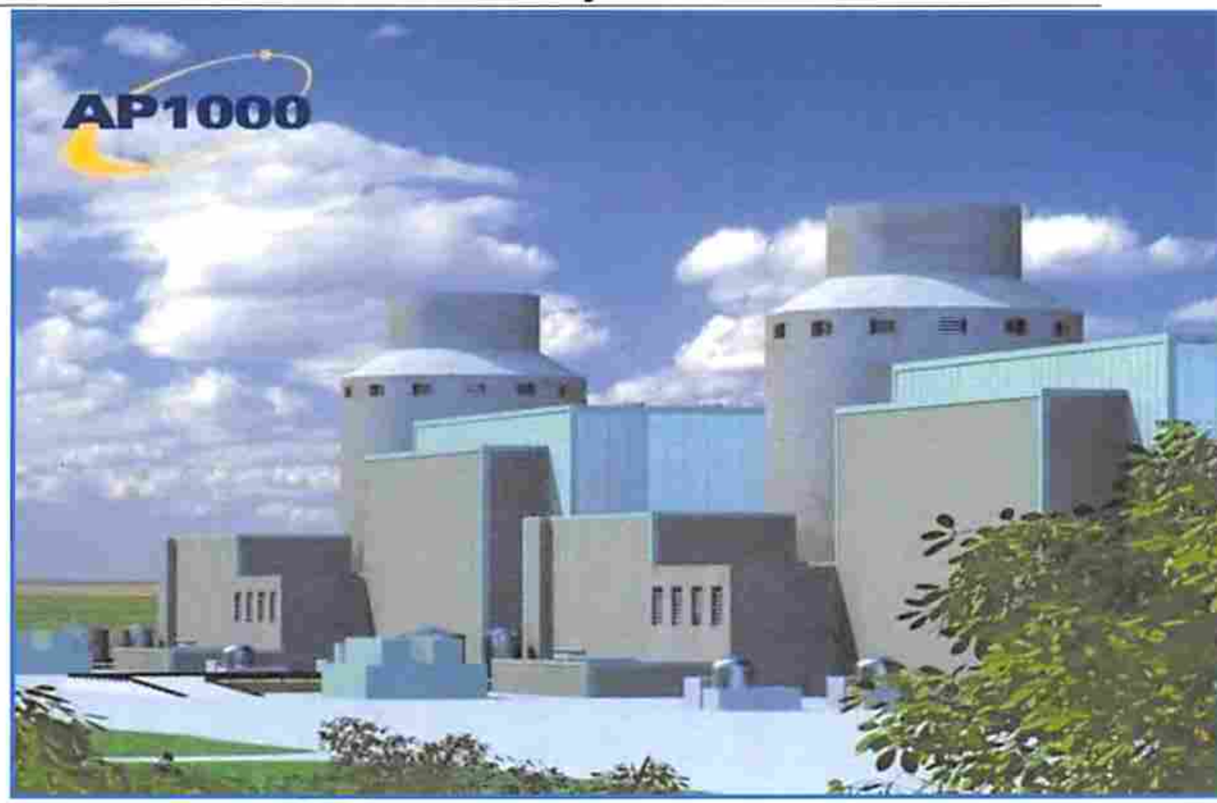
Q. ARE THE UPDATES REQUESTED IN THIS PROCEEDING REASONABLE AND PRUDENT?

A. Yes. The updates presented in this proceeding are reasonable and prudent. As President for Generation and Transmission, I am involved on an on-going basis with all major aspects of the construction project and was directly involved in the negotiations of both the EPC Contract Amendment and the decision to exercise the fixed-price option. The adjustments requested in this proceeding include adjustments to the construction schedule as well as to EPC costs and Owner's cost. They are adjustments that I know to represent reasonable and prudent changes in the cost and construction schedules for the Units. Making these adjustments is necessary to create the anticipated cost and construction schedules for the Units as required by the BLRA. Based on my knowledge of the project, and in my professional opinion, the adjustments are in no way the result of any lack of responsible and prudent management of the project by the Company or of imprudence by the Company in any respect. I ask the Commission to approve the updated capital cost and construction schedules as presented here and in Mr. Kochems' testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

New Nuclear Construction Update



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santee cooper

Westinghouse

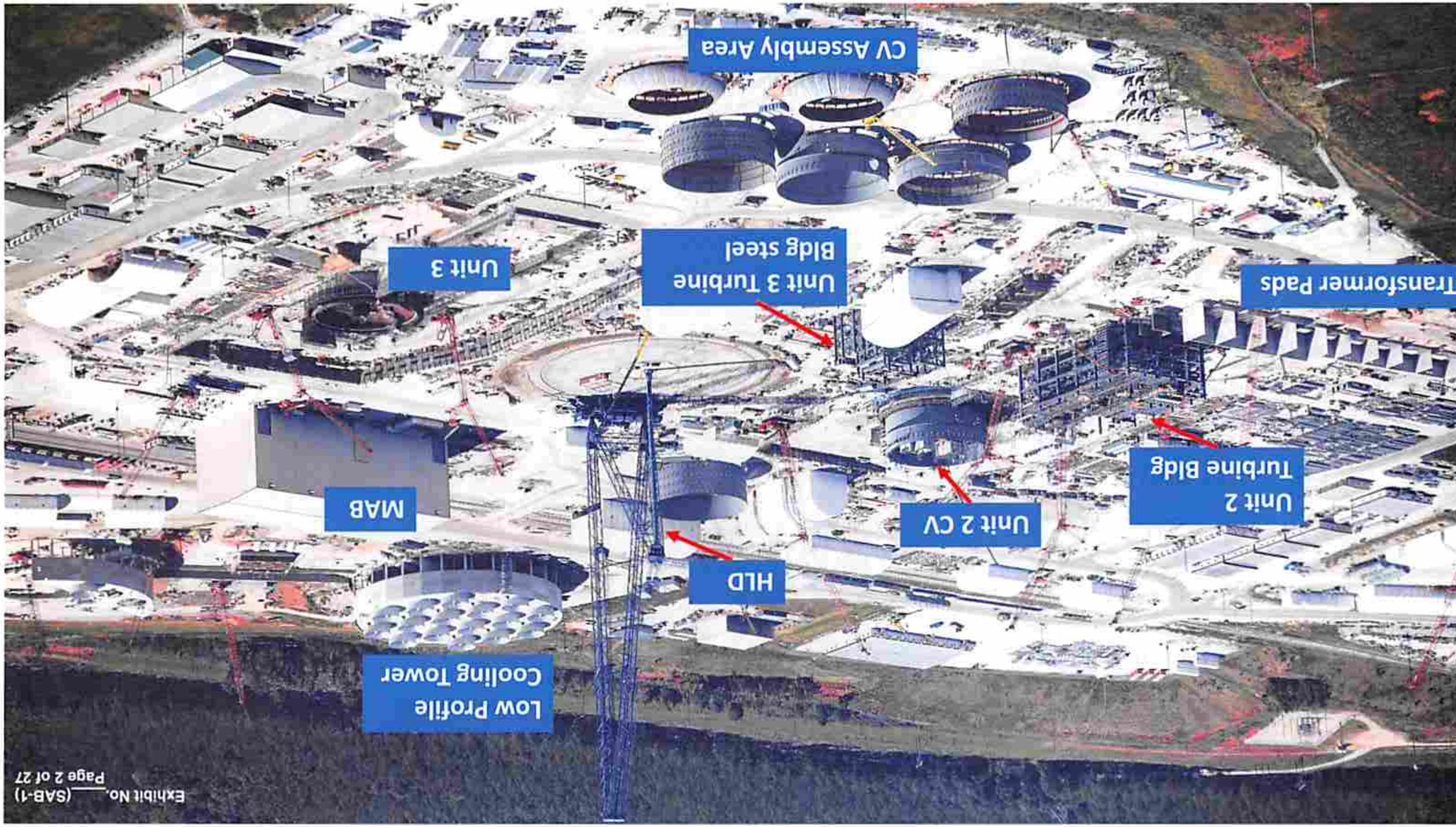
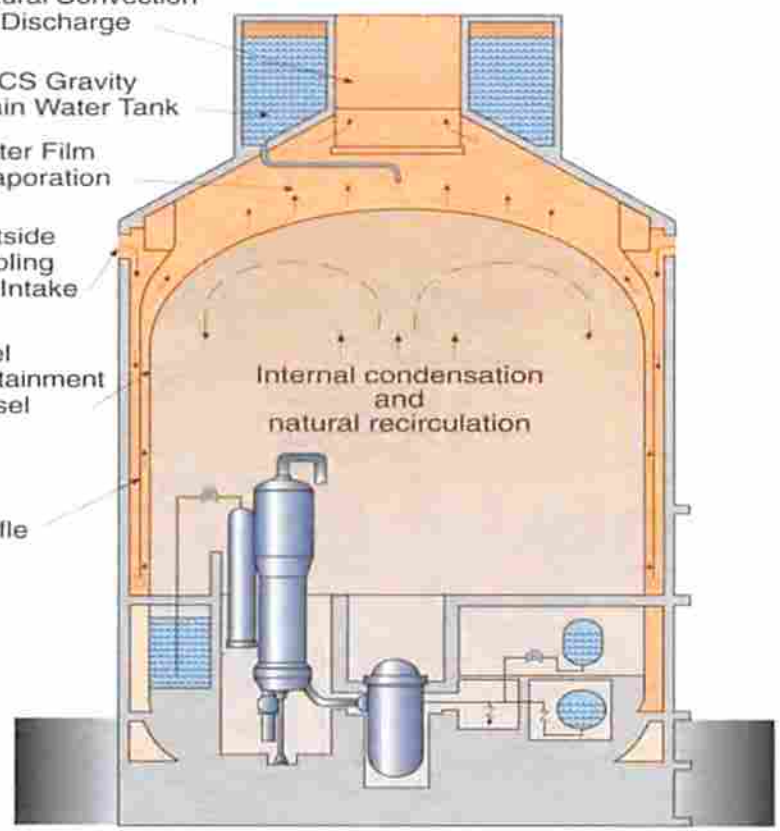


Exhibit No.____(SAB-1)
Page 2 of 27
Low Profile Cooling Tower
MAB
Unit 3
HLD
Unit 3 Turbine Bldg steel
CV Assembly Area
Unit 2 CV
Unit 2 Turbine Bldg
Transformer Pads

Passive Containment Cooling System

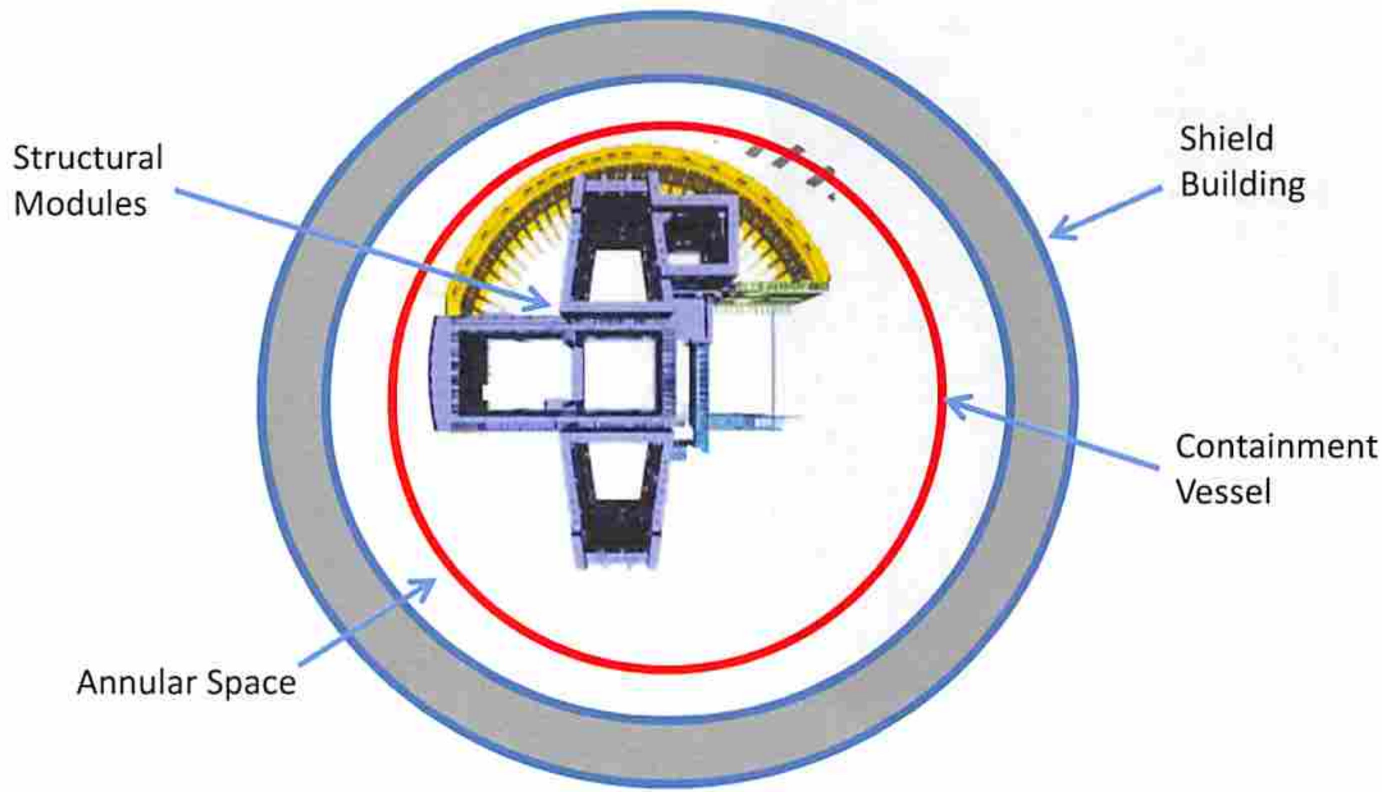
Relies on:
- Evaporation
- Precipitation
- Gravity
- Convection

No AC power needed

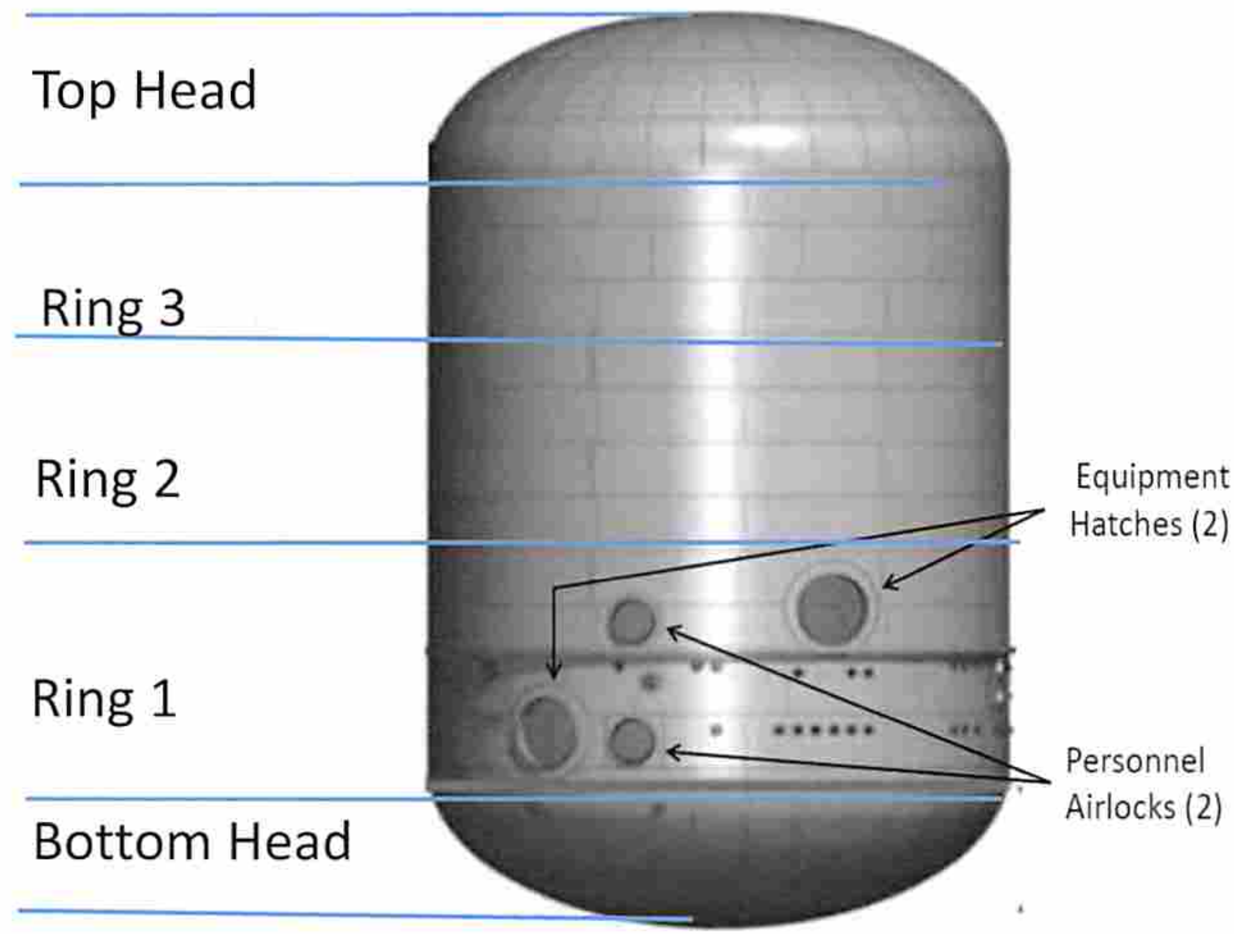


SCE&G

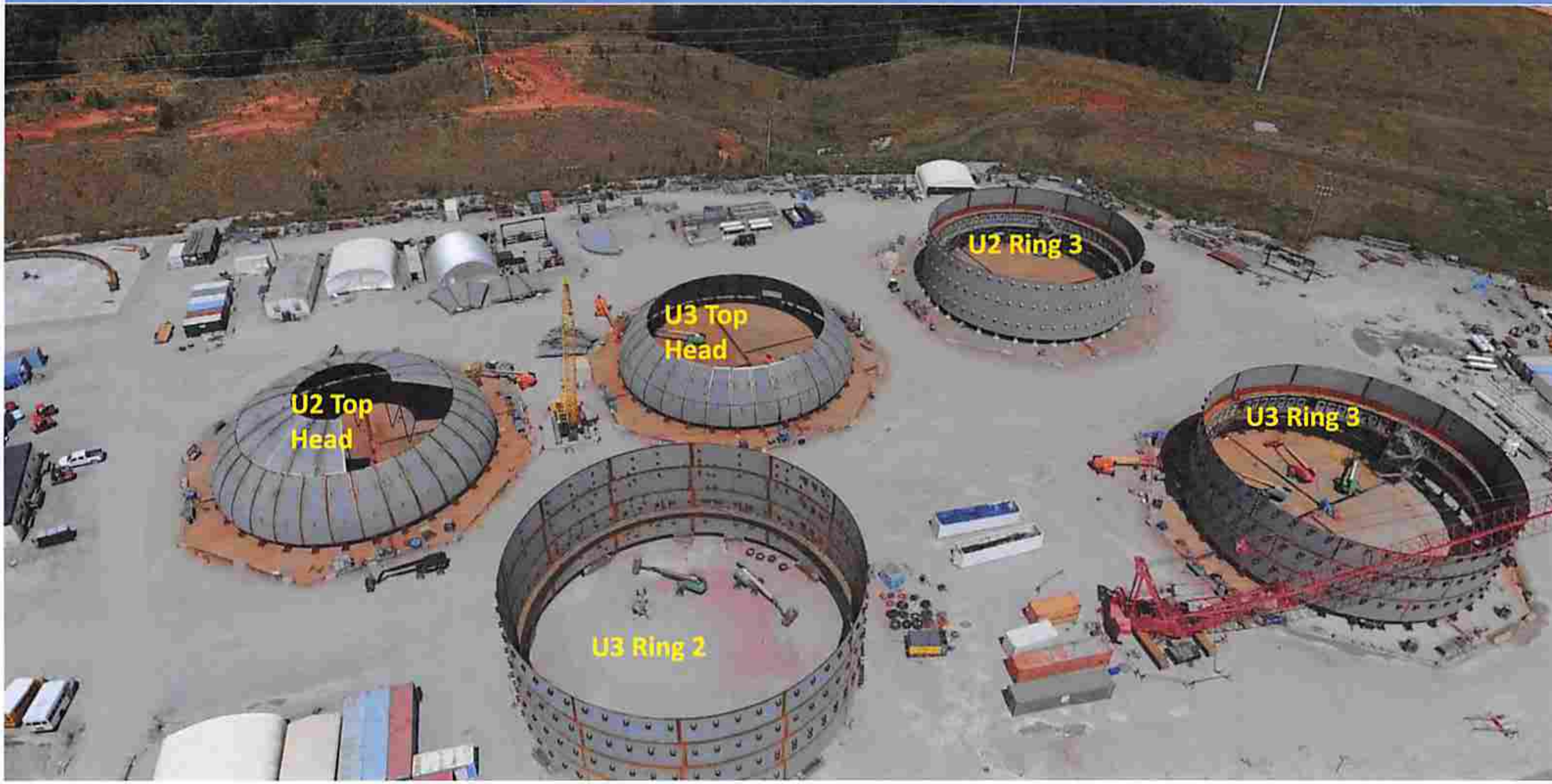
Shield Building/Containment Vessel



Containment Vessel



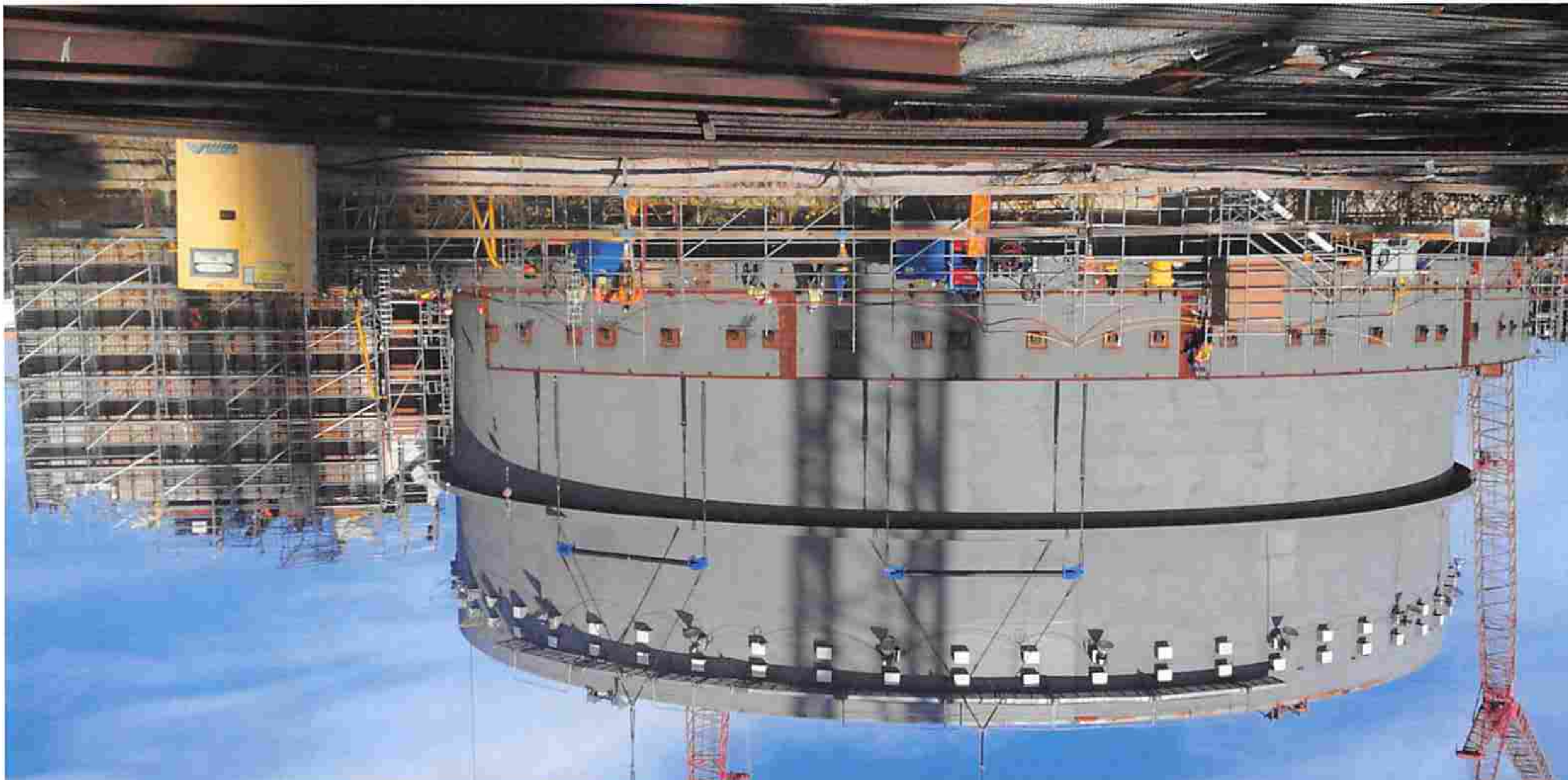
Containment Vessel Fabrication Area



Unit 2 Shield Building Panels Set

Exhibit No.____(SAB-1)
Page 7 of 27

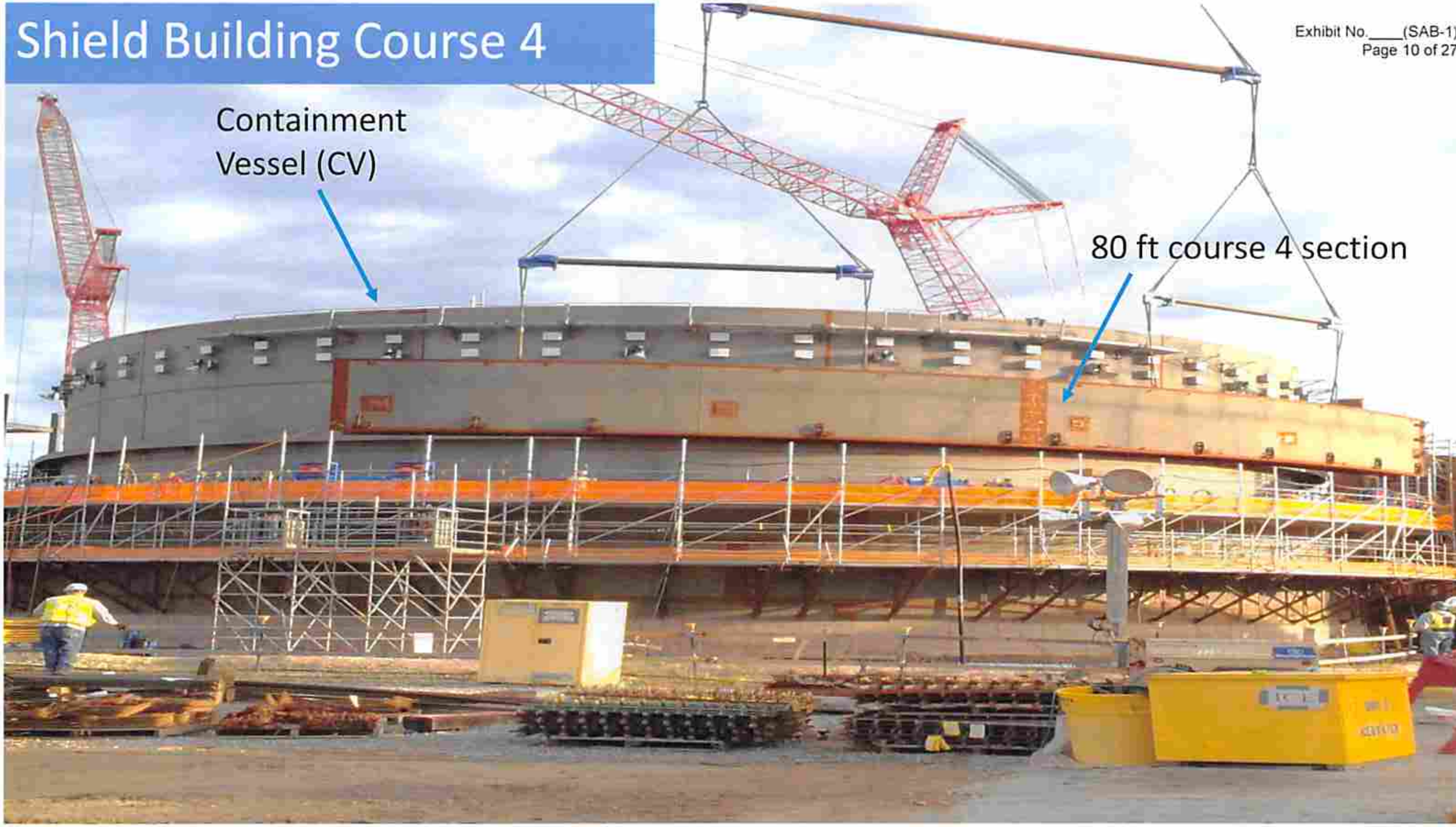
Unit 2 Shield Building with Concrete



Shield Building Course 2

Exhibit No.____(SAB-1)
Page 9 of 27

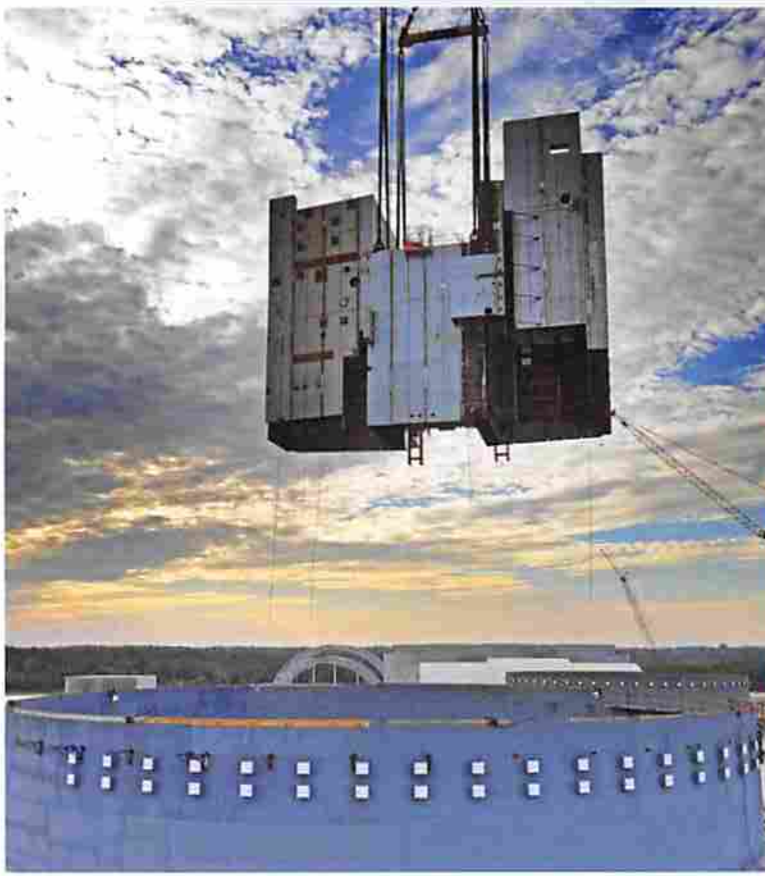
Shield Building Course 4



CA Modules

CA01 Placed July 23

Weight: 2,400,000 Lbs Dimensions: 95ft x 90ft x 80 ft



CA-03

Exhibit No.____(SAB-1)
Page 13 of 27

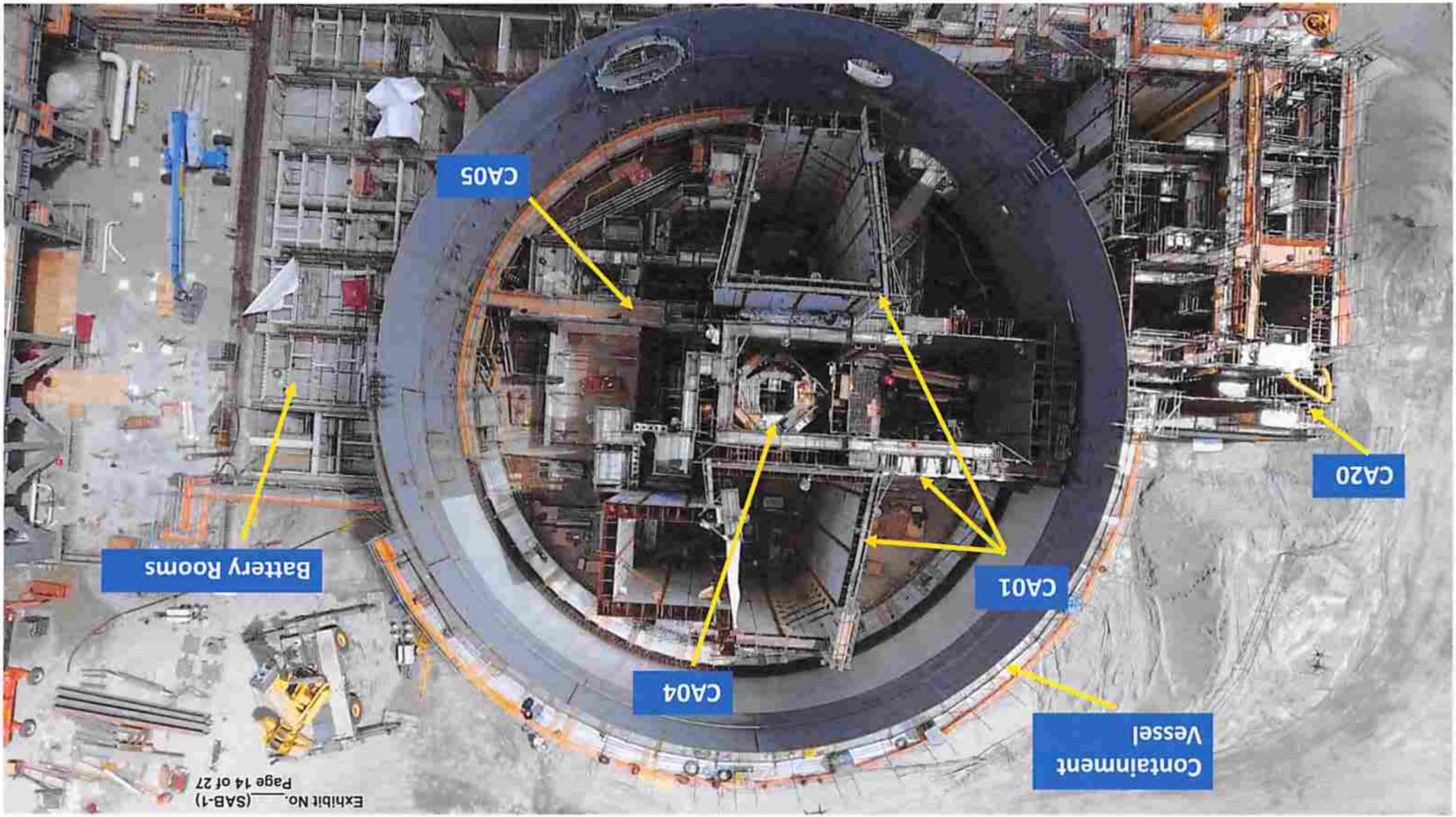
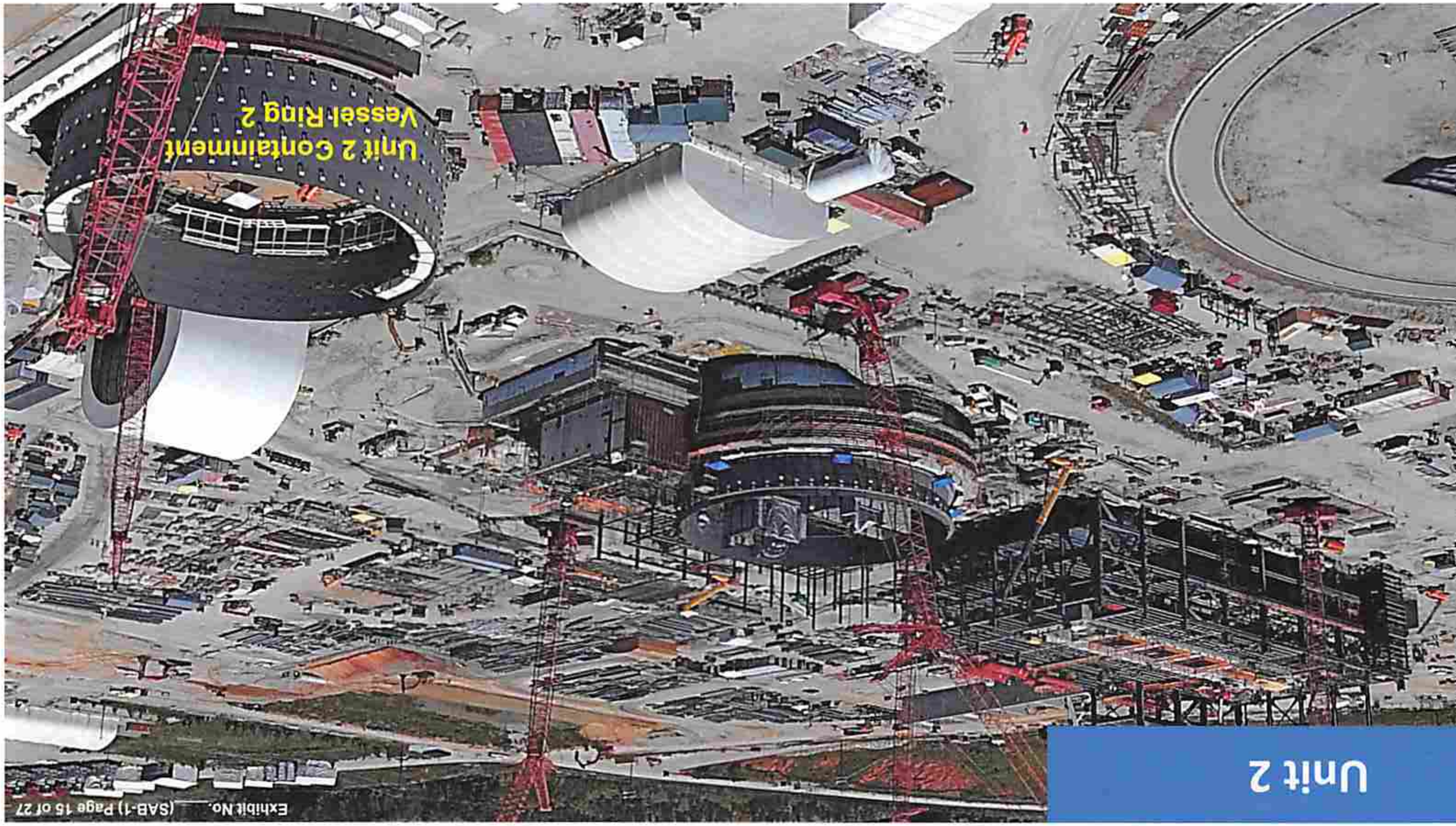
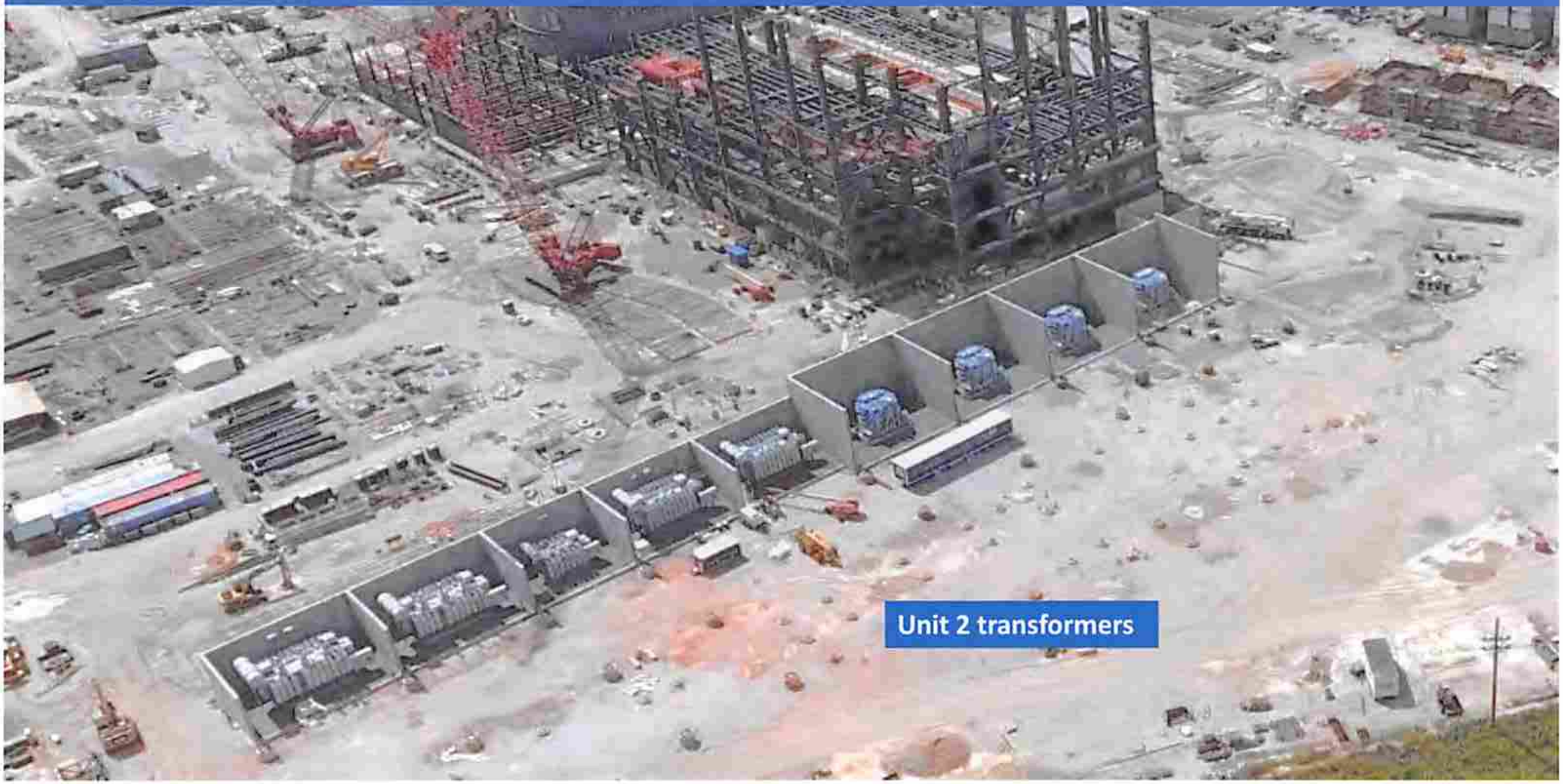


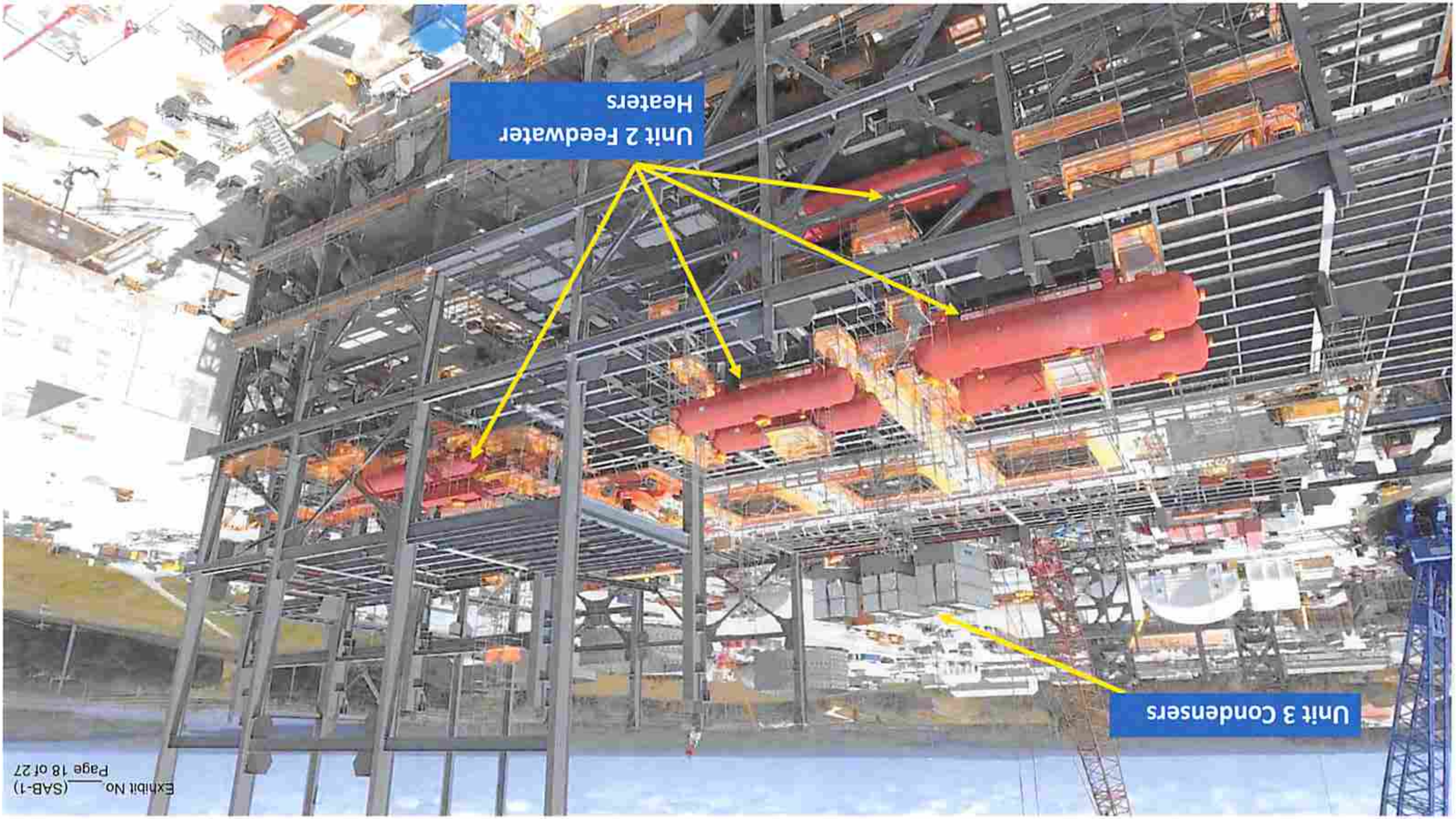
Exhibit No.____(SAB-1)
Page 14 of 27


Unit 2
Unit 2 Containment
Vessel Ring 2
Exhibit No. ____ (SAB-1) Page 15 of 27

Unit 2 transformers




Unit 2 Transformers
Exhibit No. ____ (SAB-1) Page 17 of 27


Unit 2 Feedwater Heaters
Unit 3 Condensers
Exhibit No.___(SAB-1)
Page 18 of 27

Turbine Pedestal

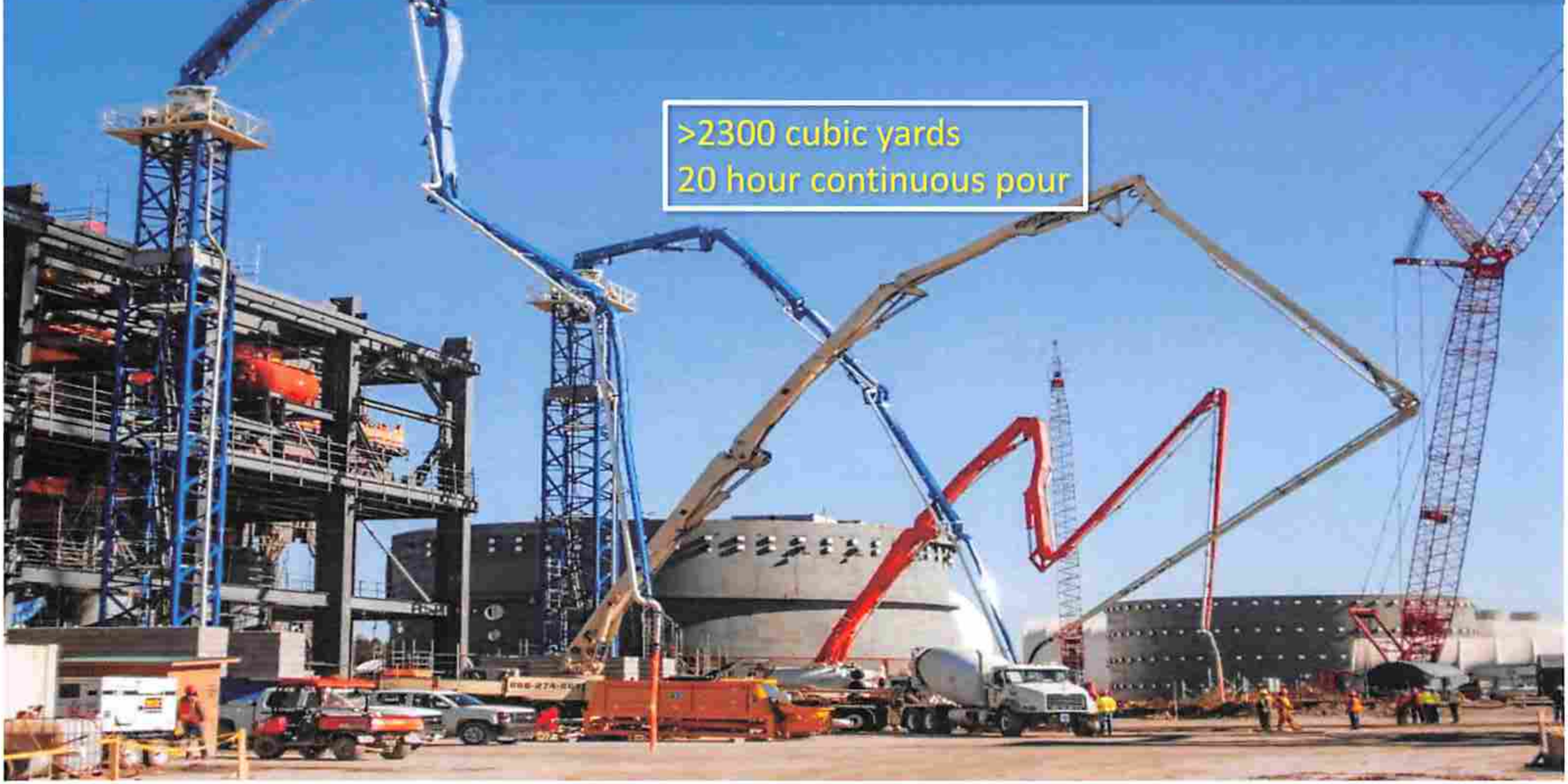
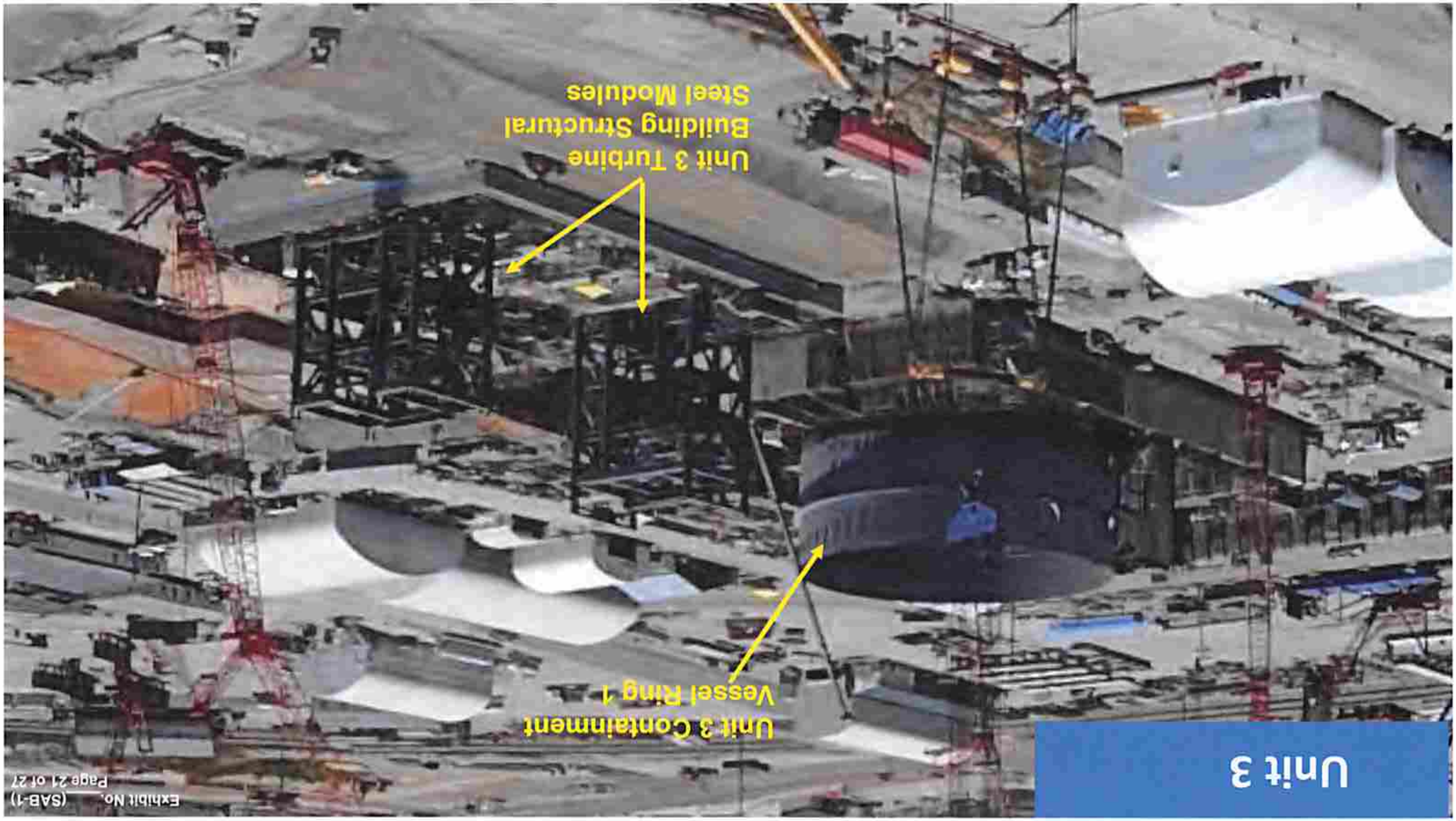
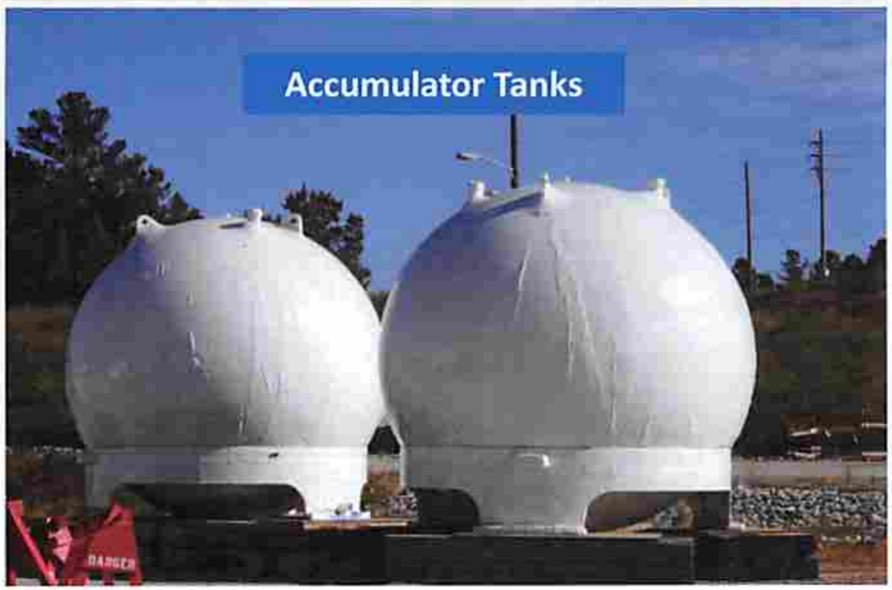



Exhibit No.____(SAB-1)
Page 20 of 27
Unit 3 Containment Vessel Ring 1


Unit 3
Unit 3 Containment
Vessel Ring 1
Unit 3 Turbine
Building Structural
Steel Modules
Exhibit No. ___ (SAB-1)
Page 21 of 27

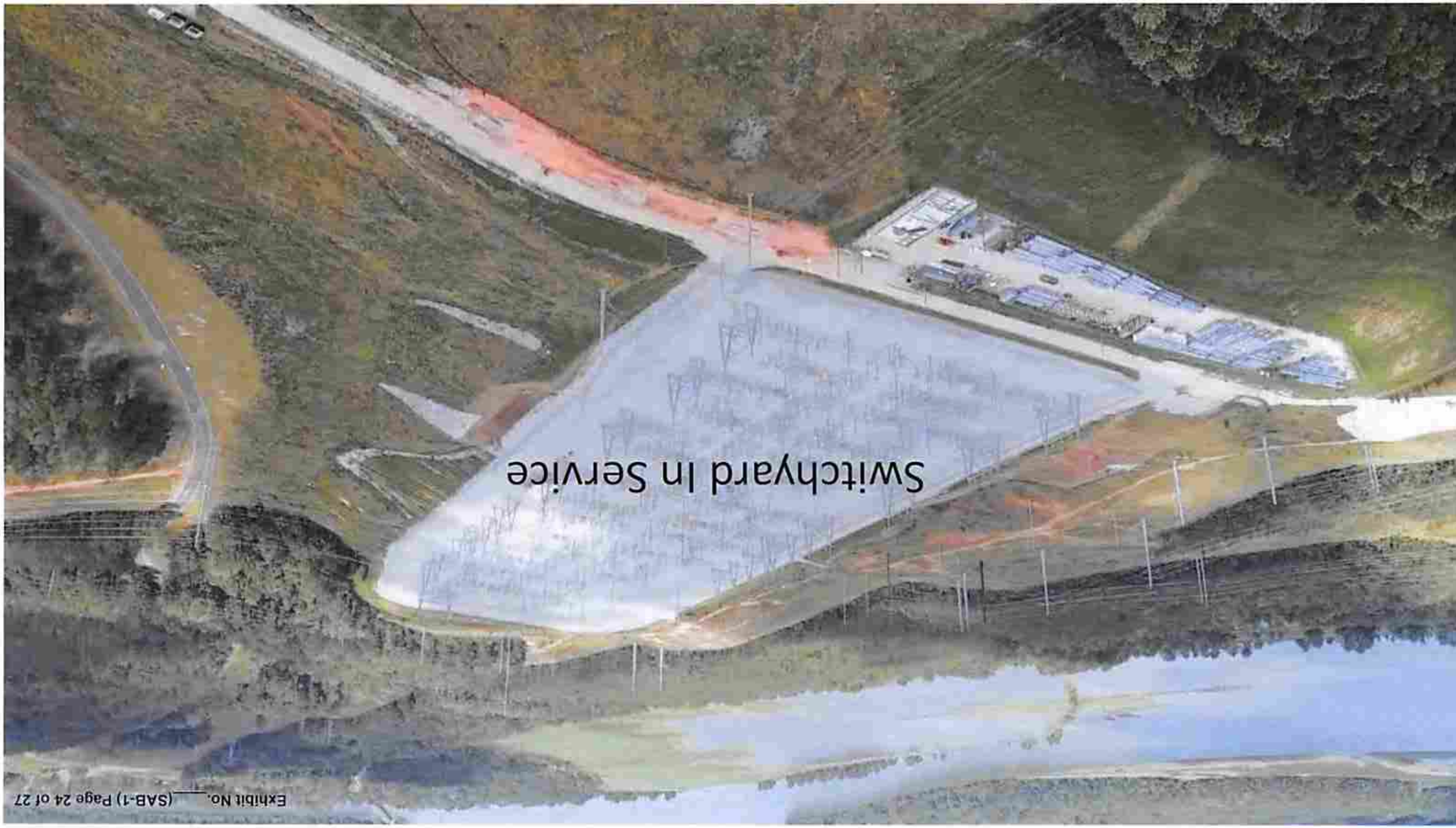

Reactor


Pressurizer


Accumulator Tanks


Steam Generator


Exhibit No.____(SAB-1)
Page 23 of 27
Cooling Towers Structurally Complete


Switchyard In Service
Exhibit No.___(SAB-1) Page 24 of 27


Water Treatment Facility Complete
Exhibit No.____(SAB-1)
Page 25 of 27

Firing Range In Service


Sanmen Units, China
Exhibit No.____(SAB-1)
Page 27 of 27

Tracking ID	Order No. 2015-661 Description	Order No. 2015-661 Date	Revised Completion Date	Unit
1	Approve Engineering Procurement and Construction Agreement	Complete	Complete	
2	Issue POs to nuclear component fabricators for Units 2 & 3 Containment Vessels	Complete	Complete	
3	Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	Complete	Complete	
4	Contractor Issue PO to Accumulator Tank Fabricator - Unit 2	Complete	Complete	
5	Contractor Issue PO to Core Makeup Tank Fabricator - Units 2 & 3	Complete	Complete	
6	Contractor Issue PO to Squib Valve Fabricator - Units 2 & 3	Complete	Complete	
7	Contractor Issue PO to Steam Generator Fabricator - Units 2 & 3	Complete	Complete	
8	Contractor Issue Long Lead Material PO to Reactor Coolant Pump Fabricator - Units 2 & 3	Complete	Complete	
9	Contractor Issue PO to Pressurizer Fabricator - Units 2 & 3	Complete	Complete	
10	Contractor Issue PO to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	Complete	Complete	
11	Reactor Vessel Internals - Issue Long Lead Material PO to Fabricator - Units 2 & 3	Complete	Complete	
12	Contractor Issue Long Lead Material PO to Reactor Vessel Fabricator - Units 2 & 3	Complete	Complete	
13	Contractor Issue PO to Integrated Head Package Fabricator - Units 2 & 3	Complete	Complete	
14	Control Rod Drive Mechanism Issue PO for Long Lead Material to Fabricator - Units 2 & 3 - first payment	Complete	Complete	
15	Issue POs to nuclear component fabricators for Nuclear Island structural CA20 Modules	Complete	Complete	
16	Start Site Specific and balance of plant detailed design	Complete	Complete	
17	Instrumentation & Control Simulator - Contractor Place Notice to Proceed - Units 2 & 3	Complete	Complete	
18	Steam Generator - Issue Final PO to Fabricator for Units 2 & 3	Complete	Complete	
19	Reactor Vessel Internals - Contractor Issue PO for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	Complete	Complete	
20	Contractor Issue Final PO to Reactor Vessel Fabricator - Units 2 & 3	Complete	Complete	
21	Variable Frequency Drive Fabricator Issue Transformer PO - Units 2 & 3	Complete	Complete	
22	Start clearing, grubbing and grading	Complete	Complete	
23	Core Makeup Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete	Complete	
24	Accumulator Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete	Complete	
25	Pressurizer Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete	Complete	
26	Reactor Coolant Loop Pipe - Contractor Issue PO to Fabricator - Second Payment - Units 2 & 3	Complete	Complete	
27	Integrated Head Package - Issue PO to Fabricator - Units 2 and 3 - second payment	Complete	Complete	
28	Control Rod Drive Mechanisms - Contractor Issue PO for Long Lead Material to Fabricator - Units 2 & 3	Complete	Complete	
29	Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	Complete	Complete	
30	Start Parr Road intersection work	Complete	Complete	
31	Reactor Coolant Pump - Issue Final PO to Fabricator - Units 2 & 3	Complete	Complete	
32	Integrated Head Packages Fabricator Issue Long Lead Material PO - Units 2 & 3	Complete	Complete	
33	Design Finalization Payment 3	Complete	Complete	
34	Start site development	Complete	Complete	
35	Contractor Issue PO to Turbine Generator Fabricator - Units 2 & 3	Complete	Complete	
36	Contractor Issue PO to Main Transformers Fabricator - Units 2 & 3	Complete	Complete	
37	Core Makeup Tank Fabricator Notice to Contractor Receipt of Long Lead Material - Units 2 & 3	Complete	Complete	
38	Design Finalization Payment 4	Complete	Complete	
39	Turbine Generator Fabricator Issue PO for Condenser Material - Unit 2	Complete	Complete	
40	Reactor Coolant Pump Fabricator Issue Long Lead Material Lot 2 - Units 2 & 3	Complete	Complete	
41	Passive Residual Heat Removal Heat Exchanger Fabricator Receipt of Long Lead Material - Units 2 & 3	Complete	Complete	
42	Design Finalization Payment 5	Complete	Complete	
43	Start erection of construction buildings, to include craft facilities for personnel, tools, equipment; first aid facilities; field offices for site management and support personnel; temporary warehouses; and construction hiring office	Complete	Complete	
44	Reactor Vessel Fabricator Notice to Contractor of Receipt of Flange Nozzle Shell Forging - Unit 2	Complete	Complete	
45	Design Finalization Payment 6	Complete	Complete	
46	Instrumentation and Control Simulator - Contractor Issue PO to Subcontractor for Radiation Monitor System - Units 2 & 3	Complete	Complete	
47	Reactor Vessel Internals - Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	Complete	Complete	
48	Turbine Generator Fabricator Issue PO for Moisture Separator Reheater/Feedwater Heater Material - Unit 2	Complete	Complete	
49	Reactor Coolant Loop Pipe Fabricator Acceptance of Raw Material - Unit 2	Complete	Complete	

Tracking ID	Order No. 2015-661 Description	Order No. 2015-661 Date	Revised Completion Date	Unit
50	Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	Complete	Complete	
51	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	Complete	Complete	
52	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	Complete	Complete	
53	Start excavation and foundation work for the standard plant for Unit 2	Complete	Complete	
54	Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	Complete	Complete	
55	Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	Complete	Complete	
56	Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	Complete	Complete	
57	Complete preparations for receiving the first module on site for Unit 2	Complete	Complete	
58	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	Complete	Complete	
59	Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	Complete	Complete	
60	Reactor Coolant Loop Pipe Fabricator Notice to Contractor of Machining, Heat Treating & Non-Destructive Testing Completion - Unit 2	Complete	Complete	
61	Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2	Complete	Complete	
62	Polar Crane Fabricator Issue PO for Main Hoist Drum and Wire Rope - Units 2 & 3	Complete	Complete	
63	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	Complete	Complete	
64	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	Complete	Complete	
65	Start placement of mud mat for Unit 2	Complete	Complete	
66	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Tubing - Unit 2	Complete	Complete	
67	Pressurizer Fabricator Notice to Contractor of Welding of Upper and Intermediate Shells Completion - Unit 2	Complete	Complete	
68	Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3	Complete	Complete	
69	Begin Unit 2 first nuclear concrete placement	Complete	Complete	
70	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 2	Complete	Complete	
71	Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	Complete	Complete	
72	Steam Generator Fabricator Notice to Contractor of Completion of 1st Steam Generator Tubing Installation - Unit 2	Complete	Complete	
73	Reactor Coolant Loop Pipe - Shipment of Equipment to Site - Unit 2	Complete	Complete	
74	Control Rod Drive Mechanism - Ship Remainder of Equipment (Latch Assembly & Rod Travel Housing) to Head Supplier - Unit 2	Complete	Complete	
75	Pressurizer Fabricator Notice to Contractor of Welding of Lower Shell to Bottom Head Completion - Unit 2	Complete	Complete	
76	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 2	Complete	Complete	
77	Design Finalization Payment 14	Complete	Complete	
78	Set module CA04 for Unit 2	Complete	Complete	
79	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Final Post Weld Heat Treatment - Unit 2	Complete	Complete	
80	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Completion of Tubing - Unit 2	Complete	Complete	
81	Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	Complete	Complete	
82	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	Complete	Complete	
83	Set Containment Vessel ring #1 for Unit 2	Complete	Complete	
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	Complete	Complete	
85	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	Complete	Complete	
86	Reactor Vessel Fabricator Notice to Contractor of Receipt of Core Shell Forging - Unit 3	Complete	Complete	
87	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 3	Complete	Complete	
88	Set Nuclear Island structural module CA03 for Unit 2	12/28/2015	6/20/2016	Unit 2
89	Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2	Complete	Complete	
90	Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	Complete	Complete	
91	Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2	Complete	Complete	
92	Start containment large bore pipe supports for Unit 2	Complete	Complete	
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	Complete	Complete	
94	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	Complete	Complete	
95	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	Complete	Complete	
96	Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	Complete	Complete	
97	Start concrete fill of Nuclear Island structural modules CA01 and CA02 for Unit 2	7/18/2016	12/10/2016	Unit 2
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	Complete	Complete	
99	Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	Complete	Complete	

Tracking ID	Order No. 2015-661 Description	Order No. 2015-661 Date	Revised Completion Date	Unit
100	Deliver Reactor Vessel Internals to Port of Export - Unit 2	Complete	Complete	
101	Set Unit 2 Containment Vessel #3	8/23/2016	2/15/2017	Unit 2
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	Complete	Complete	
103	Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	Complete	Complete	
104	Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	Complete	Complete	
105	Polar Crane - Shipment of Equipment to Site - Unit 2	12/31/2015	6/30/2016	Unit 2
106	Receive Unit 2 Reactor Vessel on site from fabricator	Complete	Complete	
107	Set Unit 2 Reactor Vessel	8/9/2016	9/2/2016	Unit 2
108	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	Complete	Complete	
109	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	10/30/2015	6/30/2016	Unit 3
110	Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	5/30/2016	2/28/2017	Unit 2
111	Place first nuclear concrete for Unit 3	Complete	Complete	
112	Set Unit 2 Steam Generator	10/10/2016	11/17/2016	Unit 2
113	Main Transformers Ready to Ship - Unit 2	Complete	Complete	
114	Complete Unit 3 Steam Generator Hydrotest at fabricator	Complete	Complete	
115	Set Unit 2 Containment Vessel Bottom Head on basemat legs	Complete	Complete	
116	Set Unit 2 Pressurizer Vessel	8/23/2016	5/11/2017	Unit 2
117	Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	1/31/2017	7/1/2017	Unit 3
118	Deliver Reactor Vessel Internals to Port of Export - Unit 3	12/31/2016	8/11/2017	Unit 3
119	Main Transformers Fabricator Issue PO for Material - Unit 3	Complete	Complete	
120	Complete welding of Unit 2 Passive Residual Heat Removal System piping	1/16/2017	5/19/2017	Unit 2
121	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 3	1/30/2016	10/30/2016	Unit 3
122	Refueling Machine - Shipment of Equipment to Site - Unit 3	3/27/2016	5/15/2017	Unit 3
123	Set Unit 2 Polar Crane	12/19/2016	6/28/2017	Unit 2
124	Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	4/30/2017	9/1/2017	Unit 3
125	Main Transformers Ready to Ship - Unit 3	Complete	Complete	
126	Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	Complete	Complete	
127	Start electrical cable pulling in Unit 2 Auxiliary Building	11/29/2016	10/6/2016	Unit 2
128	Complete Unit 2 Reactor Coolant System cold hydro	2/19/2018	8/16/2018	Unit 2
129	Activate class 1E DC power in Unit 2 Auxiliary Building	6/22/2017	11/1/2017	Unit 2
130	Complete Unit 2 hot functional test	5/23/2018	11/17/2018	Unit 2
131	Install Unit 3 ring 3 for containment vessel	2/27/2017	11/29/2017	Unit 3
132	Load Unit 2 nuclear fuel	12/21/2018	5/10/2019	Unit 2
133	Unit 2 Substantial Completion	6/19/2019	8/31/2019	Unit 2
134	Set Unit 3 Reactor Vessel	5/26/2017	12/14/2017	Unit 3
135	Set Unit 3 Steam Generator #2	9/22/2017	2/21/2018	Unit 3
136	Set Unit 3 Pressurizer Vessel	11/27/2017	3/30/2018	Unit 3
137	Complete welding of Unit 3 Passive Residual Heat Removal System piping	1/29/2018	4/11/2018	Unit 3
138	Set Unit 3 polar crane	12/18/2017	5/24/2018	Unit 3
139	Start Unit 3 Shield Building roof slab rebar placement	5/11/2018	7/7/2019	Unit 3
140	Start Unit 3 Auxiliary Building electrical cable pulling	6/23/2017	5/18/2017	Unit 3
141	Activate Unit 3 Auxiliary Building class 1E DC power	3/13/2018	9/21/2018	Unit 3
142	Complete Unit 3 Reactor Coolant System cold hydro	2/26/2019	8/15/2019	Unit 3
143	Complete Unit 3 hot functional test	5/26/2019	11/11/2019	Unit 3
144	Complete Unit 3 nuclear fuel load	12/19/2019	3/11/2020	Unit 3
145	Begin Unit 3 full power operation	5/20/2020	7/12/2020	Unit 3
146	Unit 3 Substantial Completion	6/16/2020	8/31/2020	Unit 3

AGREEMENT

AMENDMENT TO THE ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT BETWEEN SOUTH CAROLINA ELECTRIC & GAS COMPANY, FOR ITSELF AND AS AGENT FOR THE SOUTH CAROLINA PUBLIC SERVICE AUTHORITY AND A CONSORTIUM CONSISTING OF WESTINGHOUSE ELECTRIC COMPANY LLC AND STONE & WEBSTER, INC., FOR AP1000® NUCLEAR POWER PLANTS

THIS AMENDMENT ("October 2015 Amendment") to the Engineering, Procurement and Construction Agreement dated May 23, 2008 ("EPC Agreement") for the AP1000 Power Plants at the Virgil C. Summer Nuclear Generating Station ("Project") is entered into this 27th day of October 2015, by and between South Carolina Electric & Gas Company ("SCE&G"), for itself and as agent for the South Carolina Public Service Authority ("SCPSA") (collectively "Owner") and a consortium consisting of Westinghouse Electric Company LLC ("Westinghouse") and CB&I Stone & Webster, Inc. ("Stone & Webster") (collectively "Contractor"). Owner and Contractor may be referred to individually as a "Party" and collectively as the "Parties."

WHEREAS, Westinghouse has represented to Owner that it intends to acquire the stock of Stone & Webster from Chicago Bridge & Iron ("CB&I") (the "Transaction"); that CB&I will have no further involvement in the Project except for certain supply agreements; and that Westinghouse intends to hire Fluor Corporation ("Fluor") or its affiliate(s) as a subcontracted construction manager;

In consideration of the mutual promises herein and other good and valuable consideration, the receipt and sufficiency of which the Parties acknowledge, the Parties, intending to be legally bound, stipulate and agree as follows:

1. The Parties agree that this October 2015 Amendment will be a binding obligation between Owner and Westinghouse upon the approval of the boards of directors of both Owners and the authorization of the board of SCPSA for its management to execute the necessary documentation and the execution of those documents, which shall become effective upon the consummation of the Transaction ("Effective Time"), and in the event the Transaction is not consummated by March 31, 2016, this October 2015 Amendment shall be null and void in all respects. Westinghouse shall cause its wholly owned subsidiary, Stone & Webster, to execute this October 2015 Amendment.

2. Contractor hereby grants Owner until November 1, 2016 ("Option Deadline"), the irrevocable option to exercise an agreement, subject to regulatory approvals, to amend the EPC Agreement by revising the Contract Price and other specific aspects of the EPC Agreement, as stated in the amendment that is attached as Exhibit D ("Option Amendment"). Contemporaneously with the execution of this October 2015 Amendment, Contractor will execute the Option Amendment. Thereafter, Owner may, in its sole discretion, implement the Option Amendment by executing it at any time on or before the Option Deadline. The Option Amendment will not take effect unless and until Owner executes the Option Amendment, before

the Option Deadline, and all conditions precedent to effectiveness stated in the Option Amendment are satisfied or waived by Owner.

3. Owner agrees to pay Contractor the total sum of $300,000,000 (current year U.S. Dollars) and increase the Fixed Price Contract Price by said amount. Further, Contractor agrees to provide Owner with a credit to the Target Price in the amount of $50,000,000 (current year U.S. Dollars). The net $250,000,000 will be paid in twelve equal monthly installments beginning five days after the Effective Time. In exchange, Owner and Contractor agree to a full resolution by settlement and release of any and all disputes outstanding under the EPC Agreement or otherwise concerning the Project as of the Effective Time, including the following:

a. Contractor claims for additional payments for any of the items on Exhibit A, as well as claims for additional payment for cyber security and the site layout phase 2 Change Order (Change Order 26).

b. Contractor claims for amounts referenced in letters no. VSP _ VSG_003111, VSP _ VSG_003115, VSP _ VSG_ 3145, VSP _ VSG_3502 and VSP _ VSG_3522, which totaled approximately $83,518,046 as of August 21, 2015, as set forth on Exhibit B.

c. Contractor claims for amounts in other cases in which the entitlement is in dispute, which totaled approximately $29,729,785 as of August 31, 2015, as set forth on Exhibit B.

d. Contractor claims for amounts in dispute due to billings that have been held because a Change Order has not been executed, which totaled approximately $5,565,845 as of August 31, 2015, as set forth on Exhibit B.

e. Contractor claims for all amounts in dispute in cases in which only the timing is disputed, which totaled approximately $110,190,504 as of August 31, 2015, as set forth on Exhibit B.

f. Contractor claims for the balance of 10% withheld by Owner in connection with certain invoices for which the Owner has only paid 90% because the Owner disputed the invoice

g. Owner claims for refunds in connection with invoiced amounts for which Owner has paid 90% of the invoiced amount and for which Owner had previously intended to seek a refund.

h. Owner claims arising out of the employee fuel expense audit and procurement irregularities.

Subparagraphs a through h do not provide an exhaustive list of all claims, disputes, and amounts that are satisfied by this October 2015 Amendment, it being the Parties' intent that all disputes outstanding under the EPC Agreement or concerning the Project as of the Effective Time are settled and resolved. By way of further clarifications, under this October 2015 Amendment, the Parties waive and settle any and all claims currently pending or threatened by either Party against the other Party and of any and all claims currently known or reasonably foreseeable by either Party against the other Party. Whether or not the Option Amendment becomes effective, all pending Change Orders, and formal and informal notices of potential Change Orders, including but not limited to those arising from Uncontrollable Circumstances and Changes in Law, are hereby settled and resolved. Each Party represents and warrants to the other Party that it is not aware of the basis for any other claim against the other, including but not limited to those arising from Uncontrollable Circumstances and Changes in Law, and that it is not aware of any facts or circumstances that could be expected to give rise to a claim, the sole exceptions being those claims addressed in paragraph 4. For the avoidance of doubt, in the event that the Option Amendment becomes effective, the $300,000,000 payment and the $50,000,000 credit to the Target Price set forth in this paragraph 3 will be part of (and not in addition to) the total Fixed Price amount of $6.082 billion set forth in the Option Amendment.

The Parties shall execute a mutual release effectuating the provisions of this paragraph 3.

4. Notwithstanding the foregoing, the Parties have identified on Exhibit C to this Amendment all work items that they contend are required or contemplated for the Project but that are not included within the release contained in paragraph 3. Said work items are not resolved, settled or released under this October 2015 Amendment. The Parties shall cooperate in good faith to resolve all such work items expeditiously so as to not impact the Project. In the event a work item cannot be resolved, it shall be submitted to the Dispute Resolution Board as referenced in paragraphs 13 and 16. Similarly, with respect to the cyber security item listed in Exhibit A, the Parties shall cooperate in good faith to resolve all issues relating to scope expeditiously. Contractor acknowledges its obligation to commence and continue work in compliance with current NRC regulations on cyber security, pending issuance of a Change Order, so as not to impact the Project schedule, and its obligation to complete the Cyber Security work within the GSCDs stated in paragraph 6In the event a scope item cannot be resolved, it shall be submitted to the Dispute Resolution Board as referenced in paragraphs 13 and 16. Except for the items on Exhibit C and the Time and Material Work set forth in paragraph 2 of the Option Agreement, the cyber security item listed in Exhibit A and without waiving its rights concerning unknown Changes under Article 9 of the EPC Agreement, Contractor is not aware of any additions to the Scope of Work that will be required for the Project to reach Substantial Completion.

5. The Contractor acknowledges and agrees that its Scope of Work includes providing Owner with a Facility that meets the standards of DCD Rev. 19.

6. The Guaranteed Substantial Completion Dates ("GSCDs") are revised, as follows: August 31, 2019 for Unit 2 and August 31, 2020 for Unit 3. The Standard Equipment Warranty Period(s) and the Services Warranty Period(s) shall commence upon Substantial Completion of each Unit at no additional cost to Owner. To the extent a Change under Article 9 of the EPC Agreement adversely affects Contractor's ability to achieve Substantial Completion as provided in this paragraph 6, Contractor shall be entitled to equitable adjustment of the EPC Agreement as appropriate.

7. Section 13.1 of the EPC Agreement is revised to state that Delay Liquidated Damages for each Unit will commence on the applicable GSCDs stated in paragraph7, and will be computed as follows:

a. For the first thirty (30) days following the GSCD: $200,000/day; and

b. For the next thirty-one (31) to ninety (90) days: $300,000/day; and
c. For the next ninety-one (91) to one hundred fifty (150) days: $ 400,000/day; and
d. For the next one hundred fifty-one (151) to seven hundred thirty (730) days: $500,000/day; and
e. Seven hundred thirty-one (731) days or beyond: $0/day.

8. The Parties agree to share the loss if either or both Units do not qualify for production tax credits under Federal law. If a Unit is not "placed in service," as that term is used in Section 45J of the Internal Revenue Code, before January 1, 2021, Contractor agrees to reimburse Owner by February 1, 2021, the sum of $250 million per Unit, expressed as a one-time lump sum payment. For purposes of this paragraph, the January 1, 2021 date can only be extended for the following reasons (i) material actions or omissions of Owner that cause a Unit not to qualify for tax credits; or (ii) extension of the tax credit date by the U.S. government. If Contractor becomes aware of any actions or omissions of Owner that Contractor believes may cause a Unit not to qualify for tax credits, Contractor shall provide Owner with reasonable notice of such actions or omissions.

9. The maximum amount paid by Contractor to Owner under paragraphs 7 and 8 above will be limited to $338 million per Unit, if the Option Amendment becomes effective. In the event the Option Amendment does not become effective, the maximum amount paid by Contractor to Owner under paragraphs 7 and 8 above will be limited to $463 million per Unit.

10. Owner will pay Contractor an early completion bonus consisting of $150,000,000 per Unit for each Unit that is "placed in service," as that term is used in Section 45J of the Internal Revenue Code, in advance of January 1, 2021, if the Option Amendment becomes effective. In the event the Option Amendment does not become effective, Owner will pay Contractor an early completion bonus consisting of $275,000,000 per Unit for each Unit that is "placed in service," as that term is used in Section 45J of the Internal Revenue Code, in advance of January 1, 2021. For purposes of this paragraph, the January 1, 2021 date can only be extended for the following reasons (i) material actions or omissions of Owner that cause a Unit not to qualify for tax credits; or (ii) extension of the tax credit date by the U.S. government. If Contractor become aware of any actions or omissions of Owner that Contractor believes may cause a Unit not to qualify for tax credits, Contractor shall provide Owner with reasonable notice of such actions or omissions.

11. The Parties agree that no new Inspection, Tests, Analyses and Acceptance Criteria ("ITAACs") have been issued or proposed as of the Effective Time that would affect the GCSDs or entitle the Contractor to a Change Order.

12. The Parties shall cooperate in good faith to develop a new milestone payment schedule ("Construction Milestone Payment Schedule") to include all unpaid or overpaid amounts. While such good faith efforts are ongoing, Owner agrees to make payments to Contractor in the amount of $100,000,000 per month for the first five (5) months following the Effective Time. Said payments shall be in lieu of all payments for Fixed Price, Firm Price, Target Price and Time and Material Work. Once developed, Contractor agrees that Owner is to make such payments to Contractor according to the Construction Milestone Payment Schedule, instead of the existing Payment Schedules. If the Parties fail to agree to a Construction Milestone Payment Schedule by the date that is six months from the Effective Time, the matter shall be referred to the Dispute

Resolution Board ("DRB") process for resolution. Unless otherwise agreed by the Parties, the DRB shall issue its report on the Construction Milestone Payment Schedule within sixty (60) days. For the 60 day period during which the DRB is reviewing the Construction Milestone Payment Schedule, Owner shall pay the sum of $100,000,000 per month in lieu of all other payments, and such payments will be treated in the same manner as the payments referenced in paragraph 3.

Contractor will continue to invoice Owner according to previous procedures (i.e. Contractor will provide parallel invoices for Target, T&M, and Firm and Fixed Price categories) to enable calculation of the amount by which the payments described in paragraphs 3 and 12 exceed what would otherwise be due Contractor. After these advance payments cease, the excess or deficit portion of such advance payments shall be adjusted against future invoices submitted by Contractor to Owner under the EPC Agreement, at the Owner's sole discretion. Actual payments will be trued up to parallel invoices in months 6, 12 or when the Option Amendment becomes effective.

In the event that the Option Amendment is exercised and takes effect, the actual payments made under paragraphs 3 and 12 will be deducted from the amount referenced in section 1 of the Option Amendment. If the Option Amendment does not take effect, billing procedures for Target and T&M Work scopes will revert back to the EPC Agreement terms, as amended, incorporating the adjusted terms in paragraph 3 above, and Firm Price and Fixed Price scopes will continue to be billed based on the Construction Milestone Payment Schedule. For the avoidance of doubt, the cash flows of the Construction Milestone Payment Schedule will be reduced to reflect the lower amounts remaining in the Fixed Price and Firm Price categories as defined in Exhibit H of the EPC Agreement.

13. Within ten (10) days of establishing the Construction Milestone Payment Schedule, Owner shall advance a deposit of seventy-five million dollars ($75,000,000) with the Contractor.

a. After the deposit is made, Owners will not be obligated to pay to Contractor the disputed portion of any invoiced amounts submitted by Contractor to Owners.
b. The Parties shall revise the dispute resolution procedures in Article 27 of the EPC Agreement to eliminate the requirement or ability to institute litigation during the course of the Project absent a suspension or termination of the EPC Agreement.
c. The Parties shall establish a DRB process for the interim, non-final resolution of disputes, as described more fully in paragraph 16 below and Exhibit E.
d. Owner agrees to make payment to Contractor within thirty (30) days of any award entered in favor of Contractor by the DRB.
e. At Project completion, the deposit amount of $75,000,000 shall be credited against Owner's final milestone payment owed Contractor.

14. The definition of "Change in Law" in the EPC Agreement is modified so that a Change in Law occurs only in case of (a) the formal written adoption by a Government Authority of a new statute, regulation, requirement or code that did not exist as of the date of the October 2015 Amendment; or (b) where the NRC is the involved Government Authority, the NRC's official issuance or promulgation, after the date of the October 2015 Amendment, of a final and official

version of Regulatory Guides (NUREGs), Branch Technical Positions, Standard Review Plans, Interim Staff Guidance, Bulletins, Orders, or written directives, in which NRC acknowledges a new regulatory requirement or a change to an existing requirement that did not apply before the date of the October 2015 Amendment. Where Contractor cannot demonstrate a Change in Law under this paragraph, Contractor shall also be precluded from claiming that the purported Change in Law is an Uncontrollable Circumstance.

15. The Parties agree to participate in meetings with the Nuclear Regulatory Commission ("NRC") and develop strategies in an effort to alleviate issues that have arisen due to the NRC's inspections at the Project, while still affording the NRC the ability to conduct appropriate inspections. Owner cannot agree in advance to adopt the Contractor's position on every issue, but Owner will work with Contractor in good faith. In the event the Option becomes effective, Owner shall have no obligation to pay Contractor for regulatory support associated with License Amendment Requests or ITAACs, except those that arise due to a Change. In the event the Option Amendment does not become effective, such matters shall be submitted to the DRB process established pursuant to this October 2015 Amendment. For the period of time between the Effective Time and the Option Deadline, the Parties agree to suspend the DRB process for matters relating to regulatory support associated with License Amendment Requests and ITAACs. In the event the Option Amendment does not become effective, the suspended DRB matters will be administered. If the Option becomes effective, those matters suspended by the preceding sentence shall be deemed to be included in the Fixed Price.

16. Consistent with paragraph 13 above, Article 27 of the EPC Agreement is revised to eliminate the requirement or ability to bring suit during the course of the Project. The Parties agree to empanel a DRB for the interim, non-final resolution of disputes in accordance with the Dispute Resolution Agreement that is attached as Exhibit E.

17. Owner hereby waives and cancels the Chicago Bridge & Iron Parent Company Guaranty. Owner agrees that Contractor shall be relieved of any obligation to furnish a parent company guaranty on behalf of S&W under the EPC Agreement. Owner and CB&I shall execute a mutual release of all claims relating to the EPC Agreement, the Project, the S&W Parent Guarantee and the CB&I Guarantee.

18. The Parties agree to hold a face-to-face meeting among Owner, Westinghouse, the President and Chief Executive Officer of Power Systems Company, and Mr. Shiga Shigenori, the Representative Executive Officer and Corporate Senior Executive Vice President of Toshiba Corporation (or his successor) to allow Owner to describe its concerns with the Project to date and to discuss Toshiba's commitment to completing the Project and to the terms of this Agreement. In addition, at Owner's option, Toshiba, Owner, Contractor, and Fluor will hold quarterly meetings to discuss Project progress.

19. Contractor's profit on any future Change Orders under the EPC Agreement shall be capped at 7 ¾%.

20. The Parties agree that Article 13.3 is deleted from the EPC Agreement.

21. The provisions of Section 8.6(d) of the EPC Agreement are revised to provide that SCE&G or Santee Cooper shall not be required to furnish Contractor with an irrevocable, standby letter of credit, provided the Credit Rating of SCE&G or Santee Cooper, as applicable, remains at or above investment grade (Standard and Poor's BBB-; Moody's Baa3). If the Credit Rating of SCE&G or Santee Cooper falls below investment grade, Contractor may request the letter of credit, and SCE&G or Santee Cooper must furnish the letter of credit at no expense to Contractor.

22. The Parties agree to cooperate with respect to the involvement of Owner's Project consultant and/or Owner's Engineer with the work scheduled to be done by Owner's consultant.

a. Contractor shall carefully consider all matters raised by the consultant, however the consultant shall have no authority to direct the Work of Contactor.
b. Contractor agrees to provide the consultant with access to relevant documents reasonably requested by the consultant, provided such documents are necessary for the consultant to complete its work for Owners.
c. For relevant documents provided under subparagraph (b) above, Contractor may provide confidential and proprietary documents in redacted form, including redaction of any pricing information. Contractor will provide unredacted documents to the consultant, provided Contractor determines in its reasonable discretion that it is given suitable protections from Owners and/or the consultant against misuse or further disclosure of such documents.

23. Contractor acknowledges Owner's right to discuss any and all operational and project execution issues with the Vogtle owners. Owner is not permitted to disclose to the Vogtle owners information relating to any disputes, commercial issues or the terms and conditions of this agreement and any related documents or agreements.

24. All capitalized terms in this October 2015 Amendment, except for those defined in this October 2015 Amendment, shall have the meanings given to them in the EPC Agreement.

25. All provisions of the EPC Agreement not modified, expressly or by necessary implication, remain in full force and effect. All Exhibit references are to this October 2015 Amendment.

26. While the Parties acknowledge the existence of various confidentiality agreements between themselves, they also recognize that certain disclosures must be made to satisfy various securities laws and for regulatory purposes. Each Party is free to make such disclosures as it deems prudent, but the disclosing Party must provide a copy of any intended written disclosure to the other Parties before such disclosure is made.

27. Upon execution of this October 2015 Amendment, Contractor will provide written details of its relationship and structure with Fluor, including a scope of work description, sufficient to allow the Owner to understand the roles and responsibilities of Fluor on the Project. In the event of a material change in the relationship, structure, or scope, Contractor will provide details of the

change. In the event the Option Amendment does not become effective, Contractor shall submit construction related billings consistent with the existing provisions of the EPC Agreement.

28. To the extent not prohibited by its existing contracts, Contractor agrees to afford Owner and Owner's consultant access to its facilities and those of its suppliers and subcontractors at any tier, for the purpose of completing Owner's consultant's assessment and monitoring of the Project and the Project Schedule.

29. In the form of Exhibit F, Contractors will provide written consent of Toshiba Corporation to this October 2015 Agreement, affirming that the corporate guaranty of Toshiba remains in place, notwithstanding this October 2015 Agreement. This signed exhibit must be provided to Owner's prior to the Effective Time.

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IN WITNESS WHEREOF, the Parties have duly executed this October 2015 Amendment to the EPC Agreement as of the date first above written, with Toshiba Corporation, as the parent corporation of Westinghouse, indicating its express consent hereto.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By:
Name: KBMarsh
Title: Chairman + CEO

WESTINGHOUSE ELECTRIC COMPANY LLC
By:
Name: ____________
Title: ____________

STONE & WEBSTER, INC.
By:
Name: ____________
Title: ____________

IN WITNESS WHEREOF, the Parties have duly executed this October 2015 Amendment to the EPC Agreement as of the date first above written, with Toshiba Corporation, as the parent corporation of Westinghouse, indicating its express consent hereto.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By:
Name: ____________________
Title: ____________________

WESTINGHOUSE ELECTRIC COMPANY LLC
By:
Name: [signature]
Title: President & Chief Executive Officer

STONE & WEBSTER, INC.
By:
Name: ____________________
Title: ____________________

IN WITNESS WHEREOF, the Parties have duly executed this October 2015 Amendment to the EPC Agreement as of the date first above written, with Toshiba Corporation, as the parent corporation of Westinghouse, indicating its express consent hereto.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By:
Name: ____________________
Title: ____________________

WESTINGHOUSE ELECTRIC COMPANY LLC
By:
Name: ____________________
Title: ____________________

CB&I STONE & WEBSTER, INC.
By: ____________________
Name: David C. Durham
Title: President

Exhibit A

Exhibit A

Count	Issue	Issue Description	Deliverable
29	CAS and PRS Support	Primarily due to delayed design completion, the simulators delivered by the Consortium (intended to be PRSs) to the Owner do not have the functionality to support being certified by the Nuclear Regulatory Commission. As a result, the Owner has had to pursue the CAS alternative due primarily to repeated delays in ISV testing by the Consortium, which have most recently impacted the completion of ISV testing in time to support the Owner NRC exams that had been scheduled to occur in May 2015. This issue puts at risk the Owner's ability to train and certify operators in time to support Units 2 and 3 fuel loads.	(1) At no additional cost to Owner, Westinghouse to provide a Commission Approved Simulator to include: All fixes as identified to support a successful CAS implementation (fixes delivered, support to install, and fixes to fixes as necessary); End state deliverable is a simulator ready and capable of conducting license operator exams (2) If CAS is unsuccessful, at no additional cost to Owner, WEC to provide: All ISV/HEDs (Priority 1 and 2) fixed and included in a baseline 7+ simulator capable of closing the ISV ITAAC by June 2017; The HFE/ISV ITAAC should be closed such that we can answer the question in the NRC Inspection Procedure IP41502 for PRS "Is the ISV ITAAC closed?" Yes; The simulator must be delivered to site by June 2017; Success will be measured by successful completion of Inspection Procedure 41502 by NRC Region II resulting in us having a PRS (3) If CAS is successful, at no additional cost to Owner, Westinghouse to provide: All ISV/HEDs (Priority 1 and 2) fixed and included in a baseline 8 simulator capable of closing the ISV ITAAC by Mar 2018; The HFE/ISV ITAAC should be closed such that we can answer the question in the NRC Inspection Procedure IP41502 for PRS "Is the ISV ITAAC closed?" Yes; The simulator must be delivered to site by March 2018; Success will be measured by successful completion of Inspection Procedure 41502 by NRC Region II resulting in us having a PRS. (4) Commercially, CAS, CAS fixes and BL7+ ITAAC closure (if necessary) is all part of completion of ISV and delivery of a BL7 simulator and as such is already a paid for deliverable. As part of that, the BL8 Fuel Load baseline should be considered the deliverable for CO #19.
30	Design Basis Assessments (5 included in the scope)	Licensing and Regulatory compliance reviews of high risk portions of the AP1000 design is to uncover License and Regulatory noncompliance issues prior to Construction to preclude delays to Project completion similar to those encountered during construction of the Nuclear Island basemat in 2012. The results of these reviews have uncovered License noncompliance issues including Tier 1 and Tier 2* issues and successfully mitigated them through a Licensing or design change without adverse impact to the Project schedules. It is likely that these items would not have been uncovered prior to Construction without the undertaking of these reviews. It is also likely that, if these items were uncovered after Construction had commenced, work delays of multiple months would have been experienced while the issues were resolved. Westinghouse contends that the AP1000 design is consistent with all requirements of the Licensing Basis and that assessments are unnecessary. Westinghouse has charged the Owners for support necessary to perform the assessments citing that no assessments were necessary. SCE&G believes that the value of the assessments to the Projects and to Westinghouse have been demonstrated. In addition to the benefits of reduced schedule and regulatory risk mentioned above, Westinghouse receives the benefit of independent assessment of key areas of the AP1000s unique design.	SCE&G requests that Westinghouse move forward with assessments (five additional assessments are desired) and cover their internal costs such that each Party participating in the review is responsible for its own cost. In this manner, each Party shares in the costs and benefits through reduced Project schedule risk and reduced regulatory risk.
31	WEC home office and site licensing efforts	For Contractor initiated Design Changes, processing Contractor's desired changes to the design and licensing basis is resource intensive. The Contractor has initiated and processed thousands of DCPs and hundreds of LCPs. Changes are made at the request of the Contractor for convenience or in order to address challenges within the Contractor's original design that was purchased by the Owner under the EPC Agreement. The Owner has incurred considerable cost to process Contractor's desired changes to the VCS 2/3 licensing basis. Such changes are made for the Contractor's convenience. The EPC did not account for the changes to the licensing basis requested by the Contractor. The EPC was based on Owner purchase of a design from the Contractor and the Owner has incurred costs to allocate resources and obtain additional contract assistance in order to support Contractor requested changes. In addition, Contractor has requested reimbursement of expenses for implementing changes to the extent that work relates to site-specific Tier 1, Tier 2*, COL, or Tech Spec requirements. An example is the EP ITAAC Table 7.5-1 and 7.5-201 in COL Appendix C. These tables were cited by the NRC as an EP ITAAC to show required plant equipment to support EP. This equipment was also described in the DCD and if changed by the Contractor requires a site specific supporting change to the COL.	Subject to Paragraph 15 of the October 2105 Amendment Westinghouse should be responsible for its costs incurred to make changes to the Owner's Current Licensing Basis (CLB), attributable to its DCPs and LCPs. This includes efforts to resolve Owner comments prior to incorporation of change into the VCS 2/3 CLB, whether made on a draft or final revision of the proposed change package. It is reasonable to expect that some changes may require multiple comment review cycles due complexity and number of parties involved. Westinghouse should also be responsible for its costs incurred for implementing changes to the extent that work relates to site-specific Tier 1, Tier 2*, COL or Tech Spec requirements. The Owner will be responsible for Owner-directed changes.
32	WEC's position on CB&I Service claim against WEC for CV costs (delay and other)	CB&I Services (WEC's subcontractor) Containment Vessel safety-related Work was delayed from January 19, 2011 through July 31, 2011. WEC invoiced the Owner $1,405,811.35 (Target Price). CB&I Services' work was delayed due to CB&I Services' ineffective QA program; Westinghouse and its subcontractors are required to have a QA program that meets the requirements of the EPC Agreement. The Owner should not be liable for any charges associated with a delay period during which CB&I Services had to take actions necessary to meet its contractual QA program obligations.	WEC should retract this invoice as no longer owed by the Owner. Whatever settlement WEC reached with CB&I Services associated with this delay should remain between WEC and its subcontractor. No further invoices will be issued to Owner related to the costs for schedule delay impacts on the CV unless related to a Change under Article 9 of the EPC Agreement.
33	Secondary Lab and Sampling Room in Turbine Building	Per Exhibit A of the EPC Agreement, the Turbine Building is to be provided as a complete structure and finishes inclusive of all equipment, components and commodities. Consortium's position is that they are entitled to a Change Order for the completion of Secondary Chemistry Laboratory including utilities (e.g. gas lines, water lines, faucets, drain lines, electrical outlets) and fixtures (e.g. sampling panels, fume hood, sinks, high purity water treatment unit) to be located in the laboratory that interface with multiple plant systems including the Main AC power System, Waste Water System, Potable Water System, Demineralized Water System, and the Turbine Building Ventilation System.	The Consortium should supply the secondary chemistry lab furnished to the scope of supply outlined in the attachment titled "Secondary Chemistry Lab Scope of Supply" attached to SCE&G letter NND-15-0085 dated February 4, 2015.

34	Site inspections and Vendor inspections by NRC	For site inspections performed by the NRC, because the Contractor is responsible for design, construction, and testing of the AP1000 and maintains responsibility for the Facility Information during construction, the Contractor is obligated to provide knowledgeable personnel to support NRC inspections associated with design, construction and testing. These personnel may include subject matter experts whose work location is off site. From time to time, certain inspections may be generic in nature or rely solely on software/services. For these inspections it may be most effective, for all parties, to execute the inspection at the specific Contractor work location. This location may be off site at a contractor facility. For inspections performed by the NRC at Contractor's vendor facilities, it is the Owner's reasonable expectation that the Contractor and Contractor's vendors retain responsibility of Vendor inspection support. There has been no Change in Law since agreement of EPC. In fact, the NRC specifically identified their intended vendor inspection activities to include ITAAC on 6/27/2007 through SECY-07-0105. The inspections performed at vendors assure compliance with Appendix B and 10CFR21 as required by procurement documents. These inspections are not intended to confirm ITAACs but to ensure the associated QA activities are implemented in accordance with Appendix B.	At no additional cost to Owner, Westinghouse to provide the Owner with all information requested by NRC Inspectors and any information requested by the Owner to properly prepare for the inspection, in addition to routine oversight. Westinghouse will need to coordinate with their vendors, as needed, to address NRC questions related to ITAAC associated activities performed by vendors or sub-vendors. For any NRC violations requiring licensee response, related to work activities within Contractor scope, the Contractor will provide information to Owner as requested by Owner to respond and address the violation. Depending on significance, these activities may require additional engineering effort or re-work in the field. For Conditions Adverse to Quality (CAQ) which have been evaluated for 10 CFR 50.55(e) reportability or are associated with an NRC Finding, the Contractor is obligated to provide any Causal Analysis which has been performed for Owner review to support any follow up. The NRC expectation is that in accordance with 10 CFR 52.99, the Owner considers vendor inspection findings during ITAAC closure. As such, the Owner expects Contractor to share information pertaining to vendor/contractor notices of nonconformance identified by NRC and their resolution to support ITAAC closure. It is also reasonable that the Contractor share inspection results with the Owner after inspection exit to ensure the Owner can capture any issues potentially affecting ITAAC into the Corrective Action Program in a timely manner. Finally, the nature of the standard plant design obliges the Contractor to successfully manage NRC vendor inspections to support construction and operation of the first AP 1000 plants.
35	ID/labeling of subcomponents	Labeling of the plant is a Consortium (construction) responsibility as outlined in the Agreement, related Project Execution Plans, and other related Project documents. In accordance with Exhibit A.2, titled "Phase II," of the Agreement, the Consortium is to provide the Owner with "one (1) or two (2) complete AP1000 Nuclear Power Plant Units ...except for those items listed in Table 1 as Owner's Responsibility." This section further describes the AP1000 Nuclear Power Plant Units as the Standard Plant description as described in Revision 16 of the AP1000 Design Control Document (DCD). Section 18.8.4.1.9 of Revision 16 of the AP1000 DCD, titled "Coding and Labeling, states the following as it relates to labeling of components: "Equipment located in the AP1000 has a unique identifier and plant descriptive name. The configuration management system includes the identification of the equipment in the plant. Each component is assigned an identifier during the design process. The identifier is maintained through manufacturing, construction, and operation. The components are labeled according to the assigned identifier. These labels help avoid errors in operating or working on the wrong equipment and in reporting problems or conditions observed in the plant. The labels help reduce the training burden for operating and maintenance personnel. Color, syntax, abbreviations and symbols are consistently applied. The labels are located in an easily visible location on the component and are not hidden by insulation, equipment covers, or surrounding equipment. Labels are fastened to the component to prevent easy detachment of the label." APP-GW-GZP-002, "AP1000 Component Identification Labeling Procedure" contains guidance for Project groups to use in developing and affixing component identification and operator aid labels. This document lays out roles and responsibilities, label content, label material, and label placement. This procedure has been reviewed and endorsed by the Owner as an acceptable method for labeling the AP1000 Plant. Further review of the Project Execution Plans for System Turnover (APP-GW-GBH-350, Rev. 0) indicate that all system tagging labeling installation is a pre-requisite responsibility of Construction prior to turnover to Pre-Operational Testing. This approach is consistent with the expectations of SCE&G for system turnover and collaboration of station personnel in the testing and startup activities. In addition, it is the Owner's understanding that the current Work In Progress (WIP) MELs exclude the following equipment types and are not anticipated to be numbered or labeled (note: this list is not comprehensive): Subcomponents to skids and packages; Components within I&C and Electrical Cabinets (breakers, switches, and etc.); Fuses (Master Fuse List required per UFSAR); Pipe Hangers/Snubbers; Electrical equipment controls (i.e., solenoid valves for equipment).	Consortium to provide a plan outlining the labeling of the V.C. Summer AP1000 Nuclear Power Plant. At no additional cost to Owner, Consortium to label the V.C. Summer AP1000 Units 2 and 3 in accordance with APP-GW-GZP-002.
36	FPOT/F3POT	The Owner's position is that the Consortium is responsible for all testing in accordance with Article 11 of the EPC Agreement. This testing includes the First Plant Only Test (FPOT) and the First Three Plants Only (F3POT). The Owner acknowledges that the Consortium made an effort to take credit for the China FPOT and F3POT and results, but that the NRC was not supportive of this approach. As a result, the Consortium has incorporated the FPOT and F3POT into the testing program and schedule to be performed on site for the Units. The Owner agrees with including this testing in the T&M scope of work in the EPC Agreement, but does not agree that this testing is outside the EPC Agreement scope and warrants a change order. The Consortium and Owner positions are included in VSP_VSG_002399 and NND-13-0486, respectively.	The Consortium to perform the FPOT and F3POT as part of the testing program in accordance with Article 11 of the EPC Agreement.
37	Timely access to vendor technical manuals.	The Owner needs information turnover to develop the programs, processes and procedures to operate the plant. Furthermore, the Owner needs those documents produced and delivered in a timely fashion to facilitate the proper level of Owner review and acceptance. To date, the flow of engineering information not directly used to build the plant, i.e. placed in ShawDocs, has been insufficient. The EPC references in a number of locations that the Consortium will provide various documentation to the Owner prior to system turnover. Section A.2 states that "Documentation to be provided by the Contractor to the Owner as developed for the Facility as listed in Table. 2" and section 3.3.3 states "Contractor shall provide to Owner the necessary inputs, test procedures, technical manuals, and other Documentation related to forgoing tests." The Owner interprets these statements to mean that as the documents are developed to a revision 0 product, they will be made available to the owner via ShawDocs or CAPA.	As the documents are developed (revision 0), at no additional cost to Owner, Westinghouse to make those documents available for Owner review. For example, if the RCS system design is complete, those documents, to include vendor technical manuals, should all be available for owner review and acceptance, well before the system testing has begun. This process should begin immediately.
38	BEACON	The WEC AP1000 reactor Standard Plant design contains a core power distribution measurement system designated as the Incore Instrumentation System (IIS). The AP1000 has been designed to use the BEACON system as part of its required control system. BEACON is an advanced core monitoring and support package. According to DCD Revision 16, this online core monitoring system provides the operator with the current allowable operating space, detailed current power distribution information, thermal margin assessment and operational recommendations to manage and maintain required thermal margins. It is understood that the AP1000 Standard Plant initial startup cannot occur without BEACON hardware and software and, as the AP1000 is designed, it cannot be operated without BEACON. In addition per the Agreement, WEC is obligated to provide to Owner an AP1000 Standard Plant as described in DCD Revision 16. For the IIS, the system is to be supplied complete and inclusive of all equipment, components and commodities including any specialty handling tools and equipment as described in the DCD.	WEC to provide BEACON-DMM hardware and software to support fuel load, startup testing and operations as part of the EPC Agreement and without additional charge to the Owner.

39	Shield Building Door, Annex, Auxiliary Building, Aircraft Impact Assessment.	The Consortium sent to Owner Notice of Change letters (VSP_VSG_003096 and VSP_VSG_003450) claiming that a new NRC Rule entitled "Consideration of Aircraft Impact for New Nuclear Power Reactors" (the AIA Rule) impacts other structures in the Nuclear Island. Specifically, the Consortium claims that it is required to make changes to the Annex and Auxiliary Buildings' wall design, as well as Annex and Auxiliary and Shield Building doors to comply with the NRC Rule. The Consortium further claims that this scope of work is outside that of the EPC Agreement and warrants a change order. The Owner has taken exception to the Consortium claim in NND-15-0007 and NND-15-0323 based on the availability and knowledge of the draft AIA Rule prior to execution of the EPC Agreement and the comprehensive Agreement between the Consortium and the Owner executed on July 11, 2012 and resolving all issues associated with the AIA Rule impact.	Consortium to implement the necessary design and construction changes to the Shield Building Door and Annex and Auxiliary Buildings impacted by the AIA Rule in accordance with the EPC Agreement and July 11, 2012 Agreement.
40	Loss of Large Areas of the Plant due to Explosions or Fire Testing	On March 27, 2009, the NRC amended 10 CFR Part 50 and 10 CFR Part 52 with new requirements to address loss of large areas (LOLAs) of the plant due to explosions or fires from a Beyond Design Basis Event. The NRC issued Interim Staff Guidance DCD/COL-ISG-016 to assist new applicants or holders of COLs to address the LOLA requirements. These requirements were not included in DCD Revision 16, which is the design basis for the Agreement (Reference 1). In Reference 2, Owner notified the NRC that changes would be made to a future revision of the V.C. Summer Units 2 & 3 COLA in accordance with 10 CFR 52.80(d) and 10 CFR 50.54(hh)(2) to address LOLA. Owner provided the NRC with a Mitigative Strategies Description (MSD), which described the preoperational testing required to provide a reasonable confirmation of adequate spent fuel pool spray coverage. These requirements were incorporated into Owner's COL Section 2.D.(12).(e).8 as a license condition. The Consortium has offered to perform this work for SCE&G as a change order.	Consortium to perform the testing and other work required to meet Owner's LOLA obligations under the COL Section 2.D.(12).(e).8 as a license condition at no additional cost to Owner.
41	Pre-Service Testing Program Development, Pre-Service Test Conduct, ITP	The Owner and Consortium have a difference of opinion on the Initial Test Program scope as related to the following items referenced in VSP_VSG_003669: 1. Pre-service testing, including baseline in-service testing 2. Initial core load and post core load vessel assembly 3. Any spent fuel pool spray flow and makeup testing required to support the Loss of Large Area (LOLA) Mitigation Strategy Document (reference Item 40 on Commercial List) 4. Cooling Towers testing 5. Preoperational testing for: a. Storm Drains; b. Site-specific Seismic Monitoring System; c. Offsite AC Power Systems; d. Raw Water System; e. Sanitary Drain System; f. Fire Brigade Support Equipment; g. Portable Personnel Monitors and Radiation Survey Instruments; h. Physical Security Plan equipment implied in UFSAR Section 14.4.5; and, i. External/Offsite Communications The Consortiums position is that these items are not included in the EPC Agreement scope. The Owner's position is that the items above are in the EPC Agreement ITP scope. Additional ITP expectations include the following: 1. All FPOT and F3POT testing and associated activities to include test specification and procedure development, material/equipment procurement, test planning, test scheduling, test performance, data analysis and generation of final test report. Reference Item 36 on Commercial List. 2. All testing associated with "site specific" systems listed in EPC Agreement Exhibit A, Table 1. Activities to include test specification and procedure development, material and equipment procurement, test planning, test scheduling, test performance, data analysis and generation of test report. 3. ASME Pre-service Test Plan development and implementation as noted in the first section above based on the current revision of the ASME-OM document. 4. Steam Generator Moisture Carryover Test procedure development, material and equipment procurement, test planning, test scheduling, test performance, data analysis and generation of test report. Reference Item 45 on Commercial List 5. Large Area Testing. Reference item 40 on Commercial List.	Consortium to include all of these items in the ITP at no additional cost to Owner.
42	Procedure revisions from Technical Specification Upgrade (Owner, WEC 50/50)	This issue deals with LAR 13-037 (Technical Specification Upgrade) and the Owner's position that the technical specifications as written were not usable and would not allow the Owner to successfully operate the plants (reference NND-14-0479). Technical specification examples were given in NND-14-0479 relating to the Steam Generator Isolation Valves flow path, Reactor Coolant Pump minimum flow parameters and the Radioactive Effluent Control Program.	Contractor to provide a proposal to APOG for the requested scope per letter dated October 7, 2015 from APOG with subject: APOG-2015-007 Request for Quote - Technical Specifications Upgrade Impacts. Scope will be performed in accordance with and under the terms of an APOG purchase order. In the event the work is not performed through APOG, Westinghouse to provide technical specifications that are technically accurate and easily understandable and Contractor to complete items #1-5 in VSP_VSG_002989.
43	Providing As-Built Drawings	EPC Table 2-1 makes reference to As-Built and As-Designed separately from each other. Consortium members have verbally communicated that they interpret As-Built to be the As-Designed document combined with the associated change documentation. This is not consistent with SCE&G's understanding of the term As-Built. WEC procedure APP-GW-GAP-615, Appendix F5 states - To pass release for the core load and turnover to the Owner, the design shall: The design input document shall have no open items or unincorporated changes; Design output documents shall be complete, numeric, and consistently relate to the design input document. A numeric revision, verified compliance document is required and shall demonstrate that the design output documents have met all design input requirements. Design output shall have considered and reconciled the impact from as built and as-tested conditions that may impact core load. NRC Inspection Manual, Inspection Procedure 65001, "Inspections of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Related Work", Attachment 65001.A, requires the following: 02.04 Review As-Built Deviations / Non-Conformances: a. Review a sample of documents that were used to identify differences between the as-designed and as-built SSCs to determine if: i. The difference, if not corrected to comply with the as-designed conditions, was properly documented and incorporated in the final as-built drawings.	To preclude any discussion or confusion regarding what may or may not impact core load, at no additional cost to Owner, WEC to turn over to SCE&G all documents as described in EPC Table 2-1, in an as-built state, with all changes and dimensional discrepancies incorporated into the document. Owner understands the engineering backlog on change paper is growing and immediate actions are required to be able to deliver "clean paper". Owner understands that additional changes may occur after Turnover and is prepared to address processes to handle these changes.
44	Operating Procedure Configuration Control (Owner to incorporate All post-Baseline 7 Design Changes)	Westinghouse continues to make design changes to the Facility that effect standard operating procedures delivered to the Owner. Identification of the affected procedures is essential to ensure that the operating plant procedures are consistent with the plant design as required.	At no additional cost to Owner, Westinghouse to identify the impact of all design changes on operating procedures and provide this information to Owner.
45	Steam Generator Moisture Carryover Test	Refer to item 41 on Commercial List.	Refer to item 41 on Commercial List.
47	Communication System and BIS Power Allocation	For the Communication System issue, the initial Consortium design did not take into account the site layout of the plants sold to SCE&G. Designs were for a single unit and ended at the security fencing. The Consortium's initial position was that their responsibility for wireless and wired phones, paging system, radios and networking systems ends at the "fence line." SCE&G contends that the Consortium is responsible to extend these systems to the site specific areas like RWS intake structure, CWS cooling towers, and OWS facility. For the BIS Power Allocation issue, power allocated for Communications is not sufficient for SCE&G needs (e.g. powering phones, cameras, etc.). Per design documents, 48.6kW total power was allocated for both BIS and EFS networks. EFS would be allocated 35kW with the remaining 13.6kW allocated for BIS. SCE&G determined that the BIS power use was 38.4kW versus the 13.6kW allotted in the design.	For the Communication System issue, Consortium letter VSG_VSP_002475 dated October 9, 2013 established an acceptable DOR addressing the majority of the issues and site layout change order 26 resolved the remaining issues. For the BIS Power Allocation issue, Consortium to work with Owner to achieve adequate BIS power to support SCE&G communication needs at no additional cost to Owner.

49	Site Security System Backup Power	AP1000 Design Change Proposal APP-GW-GEE-2710 "Annex Building Security Features Update" identifies the back-up duration for the security system to be less than that identified in APP-GW-GLR-066 "AP1000 Safeguards Threat Assessment" and section 3.6.9 of NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design." The Owner does not accept this reduction in back-up power reduction as referenced in NND-14-0689.	Westinghouse to provide the required back-up power duration. The Owner is willing to consider the reduced back-up power duration contingent upon WEC's integration of the Plant Security Systems (SES) for Units 2 and 3 (Reference NND-14-0689).
50	OWS Security Plan	The Offsite Water System (OWS) Treatment Facility includes security and fencing plans that have been discussed with the Consortium and incorporated in the pricing for the latest draft Change Order 17 dated May 10, 2015. Correspondence relating to the OWS Security Plan includes VSP_VSG_001489, NND-11-0444, VSP_VSG_001605 and NND-12-0034. Incremental OWS security plan costs required to meet Owner corporate standards became a commercial issue, specifically the security and fencing requirements and the fire alarm system and fire detection system. Other OWS commercial issues included in the draft CO 17 are the numbering and tagging of equipment and coatings and pipe color requirements. It is noted that the primary OWS change reflected in the draft CO 17 is the addition of the reverse osmosis system to remove bromides from the water. The Owner and Consortium negotiated a "no EPC Agreement price increase" change order for CO 17 which included the OWS security and fencing plans as well as the other items referenced herein. The draft CO 17 also includes other commercial items agreed upon by the Owner and Consortium.	That the Consortium complete the installation of the OWS security, fencing and other items above to the satisfaction of the Owner. CO 17 is addressed in Commercial List item #70.
55	PEB Design Change	The Consortium and SCE&G could not initially come to agreement on the design requirements of the Plant Entry Building.	This issue was resolved with the issue of change order 26.
57	Fire Alarm monitoring	Due to the delay in the project schedule, the Owner is concerned about the increasing value of inventory in the onsite warehouses 20A, 20B and 57 in relation to the insurability of the warehouses and their content under the Owner's Builder's Risk Policy. Owner has elected to implement enhancements to the fire alarm monitoring for those warehouses, which includes monitoring of sprinkler system water flow switches in the three warehouses and interconnecting the new system to the existing yard fire alarm system. On October 7, 2015, the Consortium provided to the Owner a draft CO for Owner's review and comment.	The Consortium to install new local fire alarm control panels in Warehouses 20A and 57; the flow switches will be monitored locally at each of these 2 warehouses. A new main fire alarm panel will be installed in Warehouse 20B. This new main fire alarm panel will monitor the Warehouses 20A and 57. The new main fire alarm panel will be network connected to the existing Siemens fire alarm system using single mode fiber optic connections. Spare fibers which run between the buildings shall be assigned for this purpose. All alarms from the new warehouse fire detection system will be monitored by the existing system's main fire alarm panel located in the main plant entry guard shack. Physical connection with the existing system's network shall be made at the YFS fire pump house. The new fire detection system for the three warehouses will be designed as a Class B system; Class A monitoring is not required to satisfy the requirements of the authority having jurisdiction codes for these warehouses.
60	Laurens Piping Quality Issues	CB&I Laurens issued a self-imposed Stop Ship on March 12 following a CB&I Power Audit (V2015-03S), which included two Level 1 findings and three Level 2 findings. Most of the issues were repeat Findings from previous Audits/Surveillances performed by CB&I Power. CB&I Laurens issued a Stop Work Order (SWO) on all Safety Related (SR) ASME Section III piping on March 17. The issuance of this SWO was during the March NRC inspection which found many similar issues documented in the CB&I Audit (V2015-03S). The major issues being addressed by the SWO are CGD and Qualification of Vendors, Internal and External Audit Programs, Document Control, and Corrective Action Program. During CB&I Power Surveillance 2015-172, which occurred in August 2015, the surveillance team discovered that issues with CGD and Qualification of Vendors had not been fully addressed by CB&I Laurens. This was also noted as an indicator that the corrective actions with the CAP had not been fully effective. July 2015, CB&I Site QC inspection of pipe spools not signed off by Laurens ANI resulted in an approximate reject rate of 65%. These were due to minimum wall violations, dimensional issues, and misfabrications. These results have raised questions on inspection methodologies between Summer, Laurens, Vogtle, and Source Inspection. An additional CBI Laurens self-imposed SWO was put in place on 10/09/15 regarding the incorrect VALVES being place in a pipe spool. The preliminary investigation determined that this does not affect Section III Safety Related pipe spools and has only effected a single spool. However, this investigation is only preliminary and a full Extent of Condition has not been performed. In addition to the Laurens SWO CBI Power has issued QRL restrictions for shipping of Laurens ASME SR spools unless they are released (after enhanced inspection) by the CB&I site QA Directors. Currently Pipe Spools have only been released in phases 1-3 of a 4 phase SWO. No spools will be released to phase 4 until completion of First Article Survey(FAS) by CB&I Power. Once all Spools are completed through Phase 4, the SWO will be lifted.	1. Completion of Corrective Actions associated with stop work /stop ship and lifting of restrictions. 2. Agreement on inspection methodologies between Vogtle, Summer, Laurens, and Source Inspection. 3. Completion of Enhanced Inspections on post SWO pipe spools performed by VC Summer QC. 4. Sustainable Improvements in programmatic systems reported from Audit/Surveillance results performed by CB&I Power.
67	Common Q/Ovation MTS	Owner needs to have an Ovation MTS so Owner can train its technicians and engineers on Ovation equipment in the Ovation Maintenance and Ovation Core Team training areas. The Ovation MTS provides an offline environment with a representative sample of system hardware representing the Distributed Control and Information System (DCIS). In the plant, the Ovation platform is used for the Plant Control System, the Data Display and Processing System, and portions of the Operator Interface of the Operations and Control Centers System (collectively DCIS). Owner provided a revised scope of work to Westinghouse on September 9, 2015 and requested an updated cost proposal. [Note: Common Q MTS CO was in August 2015]	Westinghouse to provide the Ovation MTS, to include the hardware, software, documentation and support, as described in the revised scope of work, which was emailed to Westinghouse on September 9, 2015.
69	Path forward to execute CO16	CO#17 provides clarification information for CO#16. If CO #17 is to be executed, the 2 COs need to be executed together. However, the project schedule upon which CO#16 was based no longer reconciles with the current working schedule.	1. Reach agreement with Consortium on execution of CO #16 and/or CO #17 2. If CO #16 is executed, determine whether schedule language in CO #16 should be modified 3. If schedule language needs to be modified, reach agreement with Consortium on updated language 4. Reach agreement with Consortium on whether Exhibit F schedules should be included in the CO, specific to CO #16. Consortium has proposed not including Exhibit F tables, since the information would be stale at the time of CO execution; instead the impacts of CO #16 to the Exhibit F milestones would be incorporated into an EPC Amendment. 5. Execute alone or simultaneously with CO #17
70	Path forward to execute CO17	CO#17 provides clarification information for CO#16; If CO #17 is to be executed, the 2 COs need to be executed together. However, the project schedule upon which CO#16 was based no longer reconciles with the current working schedule	1. Reach agreement with Consortium on execution of CO #16 and/or CO #17 2. If CO #17 executed, reach agreement with Consortium on whether Exhibit F schedules should be included in the CO, specific to CO #17 (Tables F.1.6 (f-h)). Consortium has proposed not including Exhibit F tables, since the information would be stale at the time of CO execution; instead the impacts of CO #17 to the Exhibit F milestones would be incorporated into an EPC Amendment. 3. Owner to transmit agreed-to de-escalation process since it is not included in CO as Owner requested. 4. If executed, execute simultaneously with CO #16

77	TEDV DAQ Funding	Purchase agreement between Westinghouse, Southern and SCE&G is to provide the data acquisition system and capability to support thermal expansion and dynamic evaluation of plant components during testing.	Westinghouse to deliver TEDV DAQ in accordance with purchase agreement.
96	Offsite Storage and Lay down – Leases, Equipment, and FNM Per Diem (area 14, Blythewood, Metro)	During Phase I of the EPC Agreement scope of work, the Owner paid the Contractor to develop the requirements for all temporary facilities on the Site, to include warehouses and equipment and material laydown areas. The Contractor developed the requirements, was given unlimited access to the Site and was in control of the Target Price budget for construction of the appropriate facilities. The Contractor now estimates significantly more warehouse facilities and laydown area space than it originally planned. The Owner contends that this additional warehouse and laydown area space is attributed to either inadequate planning on the part of the Contractor or structural module delay. The facilities and laydown area in question at this point are the Blythewood warehouse facility, Metro warehouse facility and laydown area 18. The Blythewood warehouse is being utilized and the lease payments invoiced to the Owner have been disputed. The Metro facility renovation is essentially complete and ready to receive equipment and material. The Contractor will begin invoicing the Owner for the lease and other expenses. The Area 14 laydown area construction has been out for bids by the Contractor who has been having discussions with the Owner on the invoicing process. The Contractor claims entitlement to a change order for these warehouse facilities and laydown area expenses since they are located off-site. The Owner disagrees and is willing to treat these facilities as target scope work under the EPC Agreement with no justification for a change order. Also, the Owner's position is that CO 8 applies which transferred target dollars to fixed/firm dollars for items such as construction equipment and field non-manual living expenses.	The Contractor invoice the Owner for the Blythewood and Metro warehouses and Area 15 laydown area construction under the Target Price category per the EPC Agreement, applying the CO 8 cost categories to the invoicing. The total costs for these facilities and laydown area will remain in dispute per the EPC Agreement due to the structural module delay with resolution dependent upon senior executive negotiations.
97	Warranty impact due to delay and specific warranty claims; and extending warranties based on actual completion dates	The warranty requirements are specified in Article 14 of the EPC Agreement. Specifically, a 24 month warranty period for Equipment begins upon the actual Substantial Completion Dates for Units 2 and 3. The presently approved Guaranteed Substantial Completion Dates for Units 2 and 3 are March 15, 2017 and May 15, 2018, respectively. The Owner's position is that the 24 month warranty period and other warranty provisions in the EPC Agreement should be effective upon the actual Substantial Completion dates due to the structural module delay impact on the Project Schedule. Also, there are specific warranty claims that the Consortium is responsible for resolving. For example, the Units 2 and 3 Switchyard has experienced component failures, specifically related to capacitors, as noted in Owner correspondence NND-14-0335, NND-14-0337, NND-14-0514 and NND-14-0527. Other components also sustained damages, but were replaced by the Consortium with extended warranties (reference VSP_VSG_002978). The Consortium has been working with the Owner and capacitor manufacturer (ABB/Maxwell) to perform analyses and testing to determine root cause. In the meantime, capacitors have been removed from the Switchyard, which is presently operating at partial capacity due to these capacitor issues.	1. Consortium extends 24 month warranty provision and other warranty provisions of Article 14 of the EPC Agreement to be effective upon the actual Substantial Completion Dates for Units 2 and 3. 2. Consortium resolves all outstanding warranty claims, to include the Switchyard capacitor failure claim, to the Owner's satisfaction. This will include component extended warranties as applicable.
98	Cyber-Security	The Owner's position is that the Consortium is committed in the EPC Agreement to provide a cyber security program for VCS Units 2 and 3 that complies with APP-GW-GLR-104, "AP1000 Cyber Security Implementation," dated May 2007 (also referred to as TR-104). TR-104 is a requirement included in the AP1000 Design Control Document (DCD) Revision 16 which is referenced in the EPC Agreement. The Owner acknowledges that the NRC issued Regulatory Guide (RG) 5.71, "Cyber Security programs for Nuclear Facilities," subsequent to the execution of the EPC Agreement and that there is a level of incremental scope of work which has not been satisfactorily resolved to the satisfaction of the Owner. The Owner and Consortium agreed to a Phase I Cyber Security CO (#14), which was executed on March 14, 2012 The Owner and Consortium have attempted to negotiate a Phase 2 Cyber Security CO but have been unsuccessful to date. A significant impasse dealt with the Consortium's refusal to accept project schedule risk and mandate to Owner a release of the Guaranteed Substantial Completion date for Unit 2. A Phase 2 Cyber Security technical scope of work has been agreed upon and is included in the latest draft Cyber Security CO dated February 19, 2015 (VSP_VSG_003270). This technical scope is entitled "Technical Description for Consortium for AP1000 Consortium Cyber Security Scope of Supply." The Owner and Consortium have discussed scopes of work beyond Phase 2, although no Technical Description for Phase 3 has been defined. For example, in a previous draft Cyber Security CO dated February 28, 2013, Phase 3 scope topics were addressed to include potential warehouse modifications to handle storage and handling of Critical Digital Assets (CDA's), the training of site personnel to deal with CDA's and site installation and Field Change Notices associated with hardware and software modification. The Owner and Consortium have also had discussions that Phase 3 work would involve dealing with suppliers of equipment for potential smart equipment upgrades. The Owner is concerned that the negotiations on cyber security have been unnecessarily delayed as evidenced by timelines maintained by the Owner and the Consortium's decision to hold up work on cyber security and demobilize personnel earlier this year. It is noted that the Owner had authorized dollars for the Consortium to perform cyber security work during the negotiations and had requested that the Consortium continue with the interim funding provided by the Owner.	Subject to Paragraph 4 of the October 2105 Amendment Consortium to provide a cyber security program in accordance with RG 5.71 and accept schedule risk to meet Guaranteed Substantial Completion Dates agreed to between Owner and Consortium. All phases of the Cyber Security Program are included in this scope, which also includes the Phase 2 technical scope referenced in the draft CO dated February 19, 2015.

Exhibit B

Disputed and Returned Payments
Exhibit B
As of August 21, 2015

WEC Claim	
Regulatory Delay Claim	**$ 83,518,046**
Payment Entitlement in Dispute	
Capped Esc due to Structural Module Delay	$ 6,275,414
Cyber Security	$ 374,613
Target Invoice Returns (storage, tents, firm price)	$ 13,289,433
Target Invoice Withholding (10%) Due to Delay and Performance Inefficiencies	$ 7,657,127
Interest Expense on Returned Invoices	$ 2,133,198
Total	**$ 29,729,785**
No Dispute, Payments Pending CO Execution	
HW Escalation Calculation	$ 5,565,845
Total	**$ 5,565,845**
Timing of Payment in Dispute	
Progress Payments	$ 99,066,205
Milestones Not Complete	$ 11,124,299
Total	**$ 110,190,504**

Exhibit C

EXHIBIT C

Items Not Resolved or Released under October 2015 Amendment

Description	Reference
Data Turnover and documentation required	
Containment Debris Margin Increase	NND-11-0166; VSP_VSG_001218
Auxiliary Boiler design capability	
Electromagnetic Capability (EMC) with Protection & Safety Monitoring System (PMS) -	
American Society of Mechanical Engineers(ASME) Boiler and Pressure Vessel Code Section VIII pressure vessel over pressure protection	NND-15-0460; VSP_VSG_003682
Site Layout changes, Phase 3, due to security regulatory changes	
Onsite automation/I&C Support to Owner during post initial core load	
Onsite switchyard preoperational test	
Plant Security System (SES) testing	
Plant Security System (SES) Unit 2&3 Computer Integration	

Exhibit D

AGREEMENT

AMENDMENT TO THE ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT BETWEEN SOUTH CAROLINA ELECTRIC & GAS COMPANY, FOR ITSELF AND AS AGENT FOR THE SOUTH CAROLINA PUBLIC SERVICE AUTHORITY AND A CONSORTIUM CONSISTING OF WESTINGHOUSE ELECTRIC COMPANY LLC AND STONE & WEBSTER, INC., FOR AP1000® NUCLEAR POWER PLANTS

THIS AMENDMENT to the Engineering, Procurement and Construction Agreement dated May 23, 2008 ("EPC Agreement") for the AP1000 Power Plants at the Virgil C. Summer Nuclear Generating Station ("Project") by and between South Carolina Electric & Gas Company, for itself and as agent for the South Carolina Public Service Authority ("Owner") and a consortium consisting of Westinghouse Electric Company LLC ("Westinghouse") and CB&I Stone & Webster, Inc. ("S&W"), (collectively "Contractor") is executed on behalf of Westinghouse, shall be executed on behalf S&W upon the consummation of the Transaction (as defined in the October 2015 Amendment) and shall become effective upon execution by Owner and approval of the Public Service Commission of South Carolina, so long as execution occurs by the 1st day of November 2016, unless such approval is waived by the Owner or the date is waived by the Contractor ("Option Amendment"). If execution does not occur by November 1, 2016, this Option Amendment shall be null and void in all respects. Owner and Contractor may be referred to individually as a "Party" or collectively as the "Parties."

In consideration of the mutual promises herein and other good and valuable consideration, the receipt and sufficiency of which the Parties acknowledge, the Parties, intending to be legally bound, stipulate and agree as follows:

1. Except as provided in paragraph 2, all remaining Work under the EPC Agreement as of the Effective Time (defined in the October 2015 Amendment referenced below) shall be converted to a Fixed Price in exchange for the remaining Contract Price being adjusted to $6.082 billion in current U.S. Dollars. The remaining Contract Price adjustment represents the cost to complete the Project beyond what has been paid through June 30, 2015. Payments made after June 30, 2015 will be credited against the $6.082 billion amount.

2. The following Time and Material Work is not included in the Fixed Price described in paragraph 1: sales tax, performance bond and insurance premiums, import duties, Mandatory Spare Parts and Extended Equipment Warranty costs (other than the costs associated with the warranty extensions provided for in paragraph 7 of the October 2015 Amendment, because those warranty extensions are at no cost to Owner). This Work will be billed under the existing terms of the EPC Agreement.

3. The categories of Target Price and Firm Price are eliminated.

4. The capitalized terms in this Amendment, except for those defined in this Amendment, shall have the meanings given to them in the EPC Agreement.

5. All provisions of the EPC Agreement not modified, expressly or by necessary implication, remain in full force and effect.

IN WITNESS WHEREOF, the Parties have duly executed this Amendment as of the date first above written.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By: KBMarsh
Name: KEVIN MARSH
Title: CEO

WESTINGHOUSE ELECTRIC COMPANY LLC
By:
Name:
Title: President & Chief Executive Officer

STONE & WEBSTER, INC.
By:
Name: ____________________
Title: ____________________

IN WITNESS WHEREOF, the Parties have duly executed this Amendment as of the date first above written.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By:
Name: ______________________
Title: ______________________

WESTINGHOUSE ELECTRIC COMPANY LLC
By:
Name: ______________________
Title: ______________________

CB&I STONE & WEBSTER, INC.
By: David C. Durham
Name: David C. Durham
Title: President

Exhibit E

Dispute Review Board Agreement

THIS DISPUTE REVIEW BOARD AGREEMENT ("DRB Agreement") concerning the Engineering, Procurement and Construction Agreement dated May 23, 2008 ("EPC Agreement") for the AP1000 Power Plants at the Virgil C Summer Nuclear Generating Station ("Project") is effective the 31 day of DECEMBER 2015, by and between South Carolina Electric & Gas Company, for itself and as agent for the South Carolina Public Service Authority ("Owner") and a consortium consisting of Westinghouse Electric Company LLC and Stone & Webster, Inc., (collectively "Contractor"). Owner and Contractor may be referred to individually as a "Party" and collectively as the "Parties."

WHEREAS, the Parties wish to establish a Dispute Resolution Board ("DRB") for addressing all Claims, as defined in the EPC Agreement, and other disputes that may arise out of or relate to the Project and provisionally resolving such claims.

NOW, THEREFORE, in consideration of the recital, the mutual promises herein and other good and valuable consideration, the receipt and sufficiency of which the Parties acknowledge, the Parties, intending to be legally bound, stipulate and agree as follows:

1. Owner and Contractor agree to the establishment of a DRB in accordance with this DRB Agreement to assist in timely, impartial resolution of Claims and other disputes. All Claims and other disputes arising out of or relating to the EPC Agreement shall be governed by this DRB Agreement, until Substantial Completion of both Units.

2. For Claims and other disputes under $5 million, determinations of the DRB shall be binding on the Parties.

3. For Claims and other disputes of $5 million or higher, determinations of the DRB shall be treated as binding on the Parties on an interim basis until Substantial Completion of both Units. Upon Substantial Completion of both Units, either Party may proceed de novo with dispute resolution in accordance with Article 27 of the EPC Agreement. Determinations of the DRB will not be admissible in any de novo proceedings pursuant to Article 27 of the EPC Agreement.

4. For Claims and other disputes of $5 million or higher, Owner and Contractor shall submit their written acceptance or rejection of the DRB's report concurrently to the other Party and to the DRB within fourteen (14) days of receipt of the report. Failure by either Party to accept or reject within the specified period shall be deemed acceptance of the report by that Party. If both Parties accept the report, then it shall be final, without qualification. If one or both Parties reject the report, they shall nonetheless treat the report as binding until thirty (30) days after Substantial Completion of both Units, at which point the report will have no force or effect.

5. The process outlined in this DRB Agreement shall be the exclusive dispute resolution process for all Claims and other disputes under the EPC Agreement and shall be in lieu of the process set forth in Articles 27.3 and 27.4 of the EPC Agreement, until Substantial Completion of both Units. Thereafter, for Claims or other disputes covered by Paragraph 3 of this DRB Agreement, the Parties may proceed as stated in Paragraph 3.

6. Within thirty (30) days of the execution of the November 2015 Amendment, each Party shall submit to the other Party for approval the names of its nominees for membership on the DRB. The Parties shall mutually agree on the three members of the DRB. Once constituted, the DRB members shall designate one of them as Chair of the DRB. The DRB shall serve until Substantial Completion of both Units.

7. Members of the DRB shall be experienced in the interpretation of contract documents, the resolution of construction disputes, and with complex power plant projects. At least one of the DRB members must be a licensed attorney. To assist the Parties in the review and approval process, nominated members shall provide the following, in addition to the nominee's full name and contact information, to both Parties:

A. Resume showing construction experience qualifying the person as a DRB member.

B. Resume showing past DRB participation, if any. This resume will each DRB assignment separately, and state the name and location of the project, dates of DRB service, name of owner, name of contractor, contract value, nominating party if applicable, names of the other DRB members, and the number of disputes heard.

C. All three members of the DRB are to be neutral and must affirm their neutrality, under oath, once the DRB is fully constituted and before the DRB takes any action.

D. Disclosure statement describing past, present, and anticipated relationships or financial ties, including indirect relationships through the nominee's full-time employer, if any, to the Project, and with the Parties and with all other entities directly and indirectly involved in the EPC Contract. Entities indirectly involved include Fluor, designers, architects, engineers, or other professional service firms or consultants, joint-venture partners, subcontractors of any tier, and suppliers on the Project. The disclosure statement will also disclose close professional or personal relationships with key members of the Parties and these entities.

E. Neutrality and disclosure is a continuing obligation of all DRB members throughout the life of the EPC Contract.

F. Each member of the DRB shall execute non-disclosure agreements as required by the Parties.

G. No DRB member shall be allowed to act as an arbitrator or appear as a witness in any subsequent arbitration or litigation related to or arising out of the EPC Agreement.

8. Once fully constituted, the DRB will visit the project site and meet with representatives of the Parties at periodic intervals and as requested by the Parties. Any discussion and field observation shall be attended by personnel of the Owner and Contractor.

9. Owner and Contractor shall enter into good-faith negotiations to settle a dispute before referring such dispute to the DRB. These good-faith negotiations shall be involve full and timely disclosure of each Party's position to the other Party, including the exchange, where applicable, of pertinent supporting records, analyses, expert reports, and similar documentation, and shall proceed without delay following the inception of the dispute. Such good-faith negotiations may involve the solicitation and rendering of a DRB advisory opinion as described herein.

10. Either Owner or Contractor may refer a dispute to the DRB. The dispute referral shall be made in writing to the DRB Chair with a copy concurrently provided to the other DRB members and the other Party.

11. The dispute referral shall concisely define the nature and specifics of the dispute that are to be considered by the DRB and the scope of the determination requested. The DRB Chair shall confer with the Parties to establish a due date for delivering pre-hearing submittals, and a date, time, and location for convening the DRB hearing. Hearings shall be convened, at a location mutually agreed by the Parties. Absent such agreement by the Parties, the DRB shall determine the location of the hearings.

12. The procedures governing the hearings shall be established by agreement of the Parties. Absent such agreement, the DRB shall establish such hearing procedures.

13. The DRB's determination of a dispute will be formalized in a written report with format as determined by the DRB and signed by all DRB members. The report shall consist of a concise description of the dispute, short statements of each Party's position, findings as to the facts of the dispute, discussion and rationale for the determination, and the determination. The report shall be submitted concurrently to the Parties, no later than thirty (30) days after completion of the hearing as agreed by all Parties.

14. Owner and Contractor shall each bear their respective costs and attorney's fees. Owner and Contractor shall equally bear the cost of the DRB's services.

IN WITNESS WHEREOF, the Parties have duly executed this DRB Agreement as of the date first above written.

SOUTH CAROLINA ELECTRIC & GAS COMPANY, for itself and as agent for South Carolina Public Service Authority
By:
Name: ____________________
Title: ____________________

WESTINGHOUSE ELECTRIC COMPANY LLC
By: Michael T. Sweeney
Name: Michael T. Sweeney
Title: Secretary

CB&I STONE & WEBSTER, INC.
By: ____________________
Name: David C. Durham
Title: President

10. Either Owner or Contractor may refer a dispute to the DRB. The dispute referral shall be made in writing to the DRB Chair with a copy concurrently provided to the other DRB members and the other Party.

11. The dispute referral shall concisely define the nature and specifics of the dispute that are to be considered by the DRB and the scope of the determination requested. The DRB Chair shall confer with the Parties to establish a due date for delivering pre-hearing submittals, and a date, time, and location for convening the DRB hearing. Hearings shall be convened, at a location mutually agreed by the Parties. Absent such agreement by the Parties, the DRB shall determine the location of the hearings.

12. The procedures governing the hearings shall be established by agreement of the Parties. Absent such agreement, the DRB shall establish such hearing procedures.

13. The DRB's determination of a dispute will be formalized in a written report with format as determined by the DRB and signed by all DRB members. The report shall consist of a concise description of the dispute, short statements of each Party's position, findings as to the facts of the dispute, discussion and rationale for the determination, and the determination. The report shall be submitted concurrently to the Parties, no later than thirty (30) days after completion of the hearing as agreed by all Parties.

14. Owner and Contractor shall each bear their respective costs and attorney's fees. Owner and Contractor shall equally bear the cost of the DRB's services.

IN WITNESS WHEREOF, the Parties have duly executed this DRB Agreement as of the date first above written.

SOUTH CAROLINA ELECTRIC & GAS
COMPANY, for itself and as agent for South
Carolina Public Service Authority
By:
Name: ____________________
Title: ____________________

WESTINGHOUSE ELECTRIC COMPANY LLC
By: ________________________
Name: Michael T. Sweeney
Title: Secretary

CB&I STONE & WEBSTER, INC.
By: David C. Durham
Name: David C. Durham
Title: President

10. Either Owner or Contractor may refer a dispute to the DRB. The dispute referral shall be made in writing to the DRB Chair with a copy concurrently provided to the other DRB members and the other Party.

11. The dispute referral shall concisely define the nature and specifics of the dispute that are to be considered by the DRB and the scope of the determination requested. The DRB Chair shall confer with the Parties to establish a due date for delivering pre-hearing submittals, and a date, time, and location for convening the DRB hearing. Hearings shall be convened, at a location mutually agreed by the Parties. Absent such agreement by the Parties, the DRB shall determine the location of the hearings.

12. The procedures governing the hearings shall be established by agreement of the Parties. Absent such agreement, the DRB shall establish such hearing procedures.

13. The DRB's determination of a dispute will be formalized in a written report with format as determined by the DRB and signed by all DRB members. The report shall consist of a concise description of the dispute, short statements of each Party's position, findings as to the facts of the dispute, discussion and rationale for the determination, and the determination. The report shall be submitted concurrently to the Parties, no later than thirty (30) days after completion of the hearing as agreed by all Parties.

14. Owner and Contractor shall each bear their respective costs and attorney's fees. Owner and Contractor shall equally bear the cost of the DRB's services.

IN WITNESS WHEREOF, the Parties have duly executed this DRB Agreement as of the date first above written.

SOUTH CAROLINA ELECTRIC & GAS
COMPANY, for itself and as agent for South
~~Carolina Public Service Authority~~
By:
Name: [signature]
Title: PRESIDENT, GENERATION & TRANSMISSION

WESTINGHOUSE ELECTRIC COMPANY LLC
By: [signature]
Name: Michael T. Sweeney
Title: Secretary

CB&I STONE & WEBSTER, INC.
By: ______________________
Name: David C. Durham
Title: President

Exhibit F

EXHIBIT F

CONSENT OF GUARANTOR

This Consent is made by TOSHIBA CORPORATION ("Guarantor"), a corporation duly organized and existing under the laws of Japan and the indirect parent of Westinghouse Electric Company LLC ("Westinghouse").

WHEREAS, Westinghouse and Stone & Webster, Inc. ("Stone & Webster", and collectively with Westinghouse, the "Contractor") and South Carolina Electric & Gas Company, for itself and as agent for the South Carolina Public Service Authority (collectively, the "Counterparty") are parties to the Engineering, Procurement and Construction Agreement between the Contractor and the Counterparty, dated as of May 23, 2008 (the "Agreement"); and

WHEREAS, in connection with the Agreement, Guarantor executed and delivered to Counterparty a guaranty of the payment obligations of Westinghouse under the terms of the Agreement (the "Guaranty"); and

WHEREAS, the Agreement is being amended by an Amendment dated October 27, 2015 (the "October 2015 Amendment"); and

WHEREAS, Guarantor, as indirect parent of Westinghouse, shall receive benefit from the transaction contemplated by the Agreement as previously amended and as amended by the October 2015 Amendment and has agreed to give this Consent to provide assurance for Westinghouse's payment obligations in connection with the Agreement as so amended; and

WHEREAS, Guarantor acknowledges the execution and delivery of this Consent is required by the terms of the October 2015 Amendment.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the adequacy, receipt and sufficiency of which are hereby acknowledged, Guarantor hereby agrees as follows:

1. Guarantor acknowledges the terms of the October 2015 Amendment.

2. The definition of Guaranteed Obligations in the Guaranty includes all payment obligations of Westinghouse under the terms of the Agreement, as previously amended and as amended by the October 2015 Amendment.

3. Guarantor hereby reaffirms the Guaranty and agrees that, except as provided herein, the Guaranty shall remain unchanged and in full force and effect. Each and every term, covenant and condition of the Guaranty is hereby incorporated herein such that the Guaranty and this Consent shall be read and construed as one instrument.

4. The validity, construction, and performance of this Consent of Guarantor shall be governed by and interpreted in accordance with the laws of the State of New York, without

giving effect to the principles thereof relating to conflicts of laws except Section 5-1401 of the New York General Obligations Law.

IN WITNESS WHEREOF, Guarantor has caused this Consent to be executed in its corporate name by its duly authorized representative.

TOSHIBA CORPORATION

By: ____________
Name: Shigenori Shiga
Title: Representative Executive Officer
Date: October 27, 2015

Acknowledged and Agreed by Counterparty as of this 27 day of October, 2015, by:

____
Name: KEVIN B. MARSH
Title: CEO, SCANA CORP.

MUTUAL RELEASE

This Mutual Release ("Mutual Release") is executed this 27th day of October, 2015, by South Carolina Electric & Gas Company, a South Carolina corporation having a place of business in Cayce, South Carolina, for itself and as agent for the South Carolina Public Service Authority, a body corporate and politic created by the laws of the State of South Carolina (collectively, "Owners") and Chicago Bridge & Iron Company N.V. ("CB&I"), a corporation organized under the laws of the Netherlands.

RECITALS

WHEREAS, Owners and a consortium consisting of Westinghouse Electric Company LLC ("Westinghouse") and CB&I Stone & Webster, Inc. ("S&W") (collectively, the "Contractor") entered into an Engineering, Procurement and Construction Agreement with an effective date of May 23, 2008 (as amended or supplemented, the "EPC Agreement") pursuant to which the Contractor agreed to assist Owners in the licensing of and to design, engineer, procure, construct and test two AP1000 Nuclear Power Plants and related facilities, structures and improvements known as Units 2 and 3 located at the V.C. Summer station in Jenkinsville, South Carolina, and owned by Owners (the "Project");

WHEREAS, pursuant to the EPC Agreement, S&W furnished to Owners a Corporate Guarantee dated and effective as of May 23, 2008 and issued and executed by S&W's then-ultimate holding corporation, The Shaw Group, Inc. ("Shaw Group") (as amended or supplemented, the "S&W Parent Guarantee");

WHEREAS, thereafter, in connection with the acquisition by CB&I of Shaw Group, CB&I executed and furnished to Owners a Corporate Guarantee dated April 29, 2013 (the "CB&I Guarantee"), which replaced the S&W Parent Guarantee;

WHEREAS, Contractor has submitted various notices of Change and Change Dispute Notices pursuant to the EPC Agreement that remain unresolved and various commercial issues, Change Disputes and Claims (as defined in the EPC Agreement) are pending under the EPC Agreement (collectively, "EPC Claims");

WHEREAS, simultaneously with the execution and delivery of this Mutual Release, Owners and Westinghouse are entering into a binding Settlement and Release Agreement (the "Settlement Agreement"), with respect to, among other things, the EPC Claims;

WHEREAS, Westinghouse, S&W, an affiliate of Westinghouse ("Purchaser"), and CB&I are entering into a Purchase Agreement pursuant to which, among other things, Purchaser will purchase all of the outstanding capital stock of S&W; and

WHEREAS, effective upon the Effective Time (as defined in Paragraph 3), Owners and CB&I agree to release one another from any and all past, current and future duties, obligations, claims and liabilities arising out of or related to the EPC Claims, the EPC Agreement, the Project, the S&W Parent Guarantee and the CB&I Guarantee.

NOW, THEREFORE, in consideration of the recitals and the mutual promises, covenants and agreements contained in the Settlement Agreement and herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, Owners and CB&I mutually, release one another as follows.

RELEASE

1. Effective upon the Effective Time, Owners, for themselves and their respective officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries and affiliated entities, heirs, executors and administrators (collectively, the "Owner Releasing Parties") and each of them, hereby unconditionally and irrevocably fully release, forever discharge and covenant not to sue, except for the Excepted Party as defined in Paragraph 2 hereof, CB&I and its past, present, and future officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries, and affiliated entities, heirs, executors and administrators (collectively, the "CB&I Released Parties"), and each of them, from any and all manner of actions, controversies, suits, matters, liens, rights, liabilities, losses, debts, dues, damages, claims, guarantees, warranties, judgments, bonds, executions, obligations, accounts, fines, regulatory penalties (whether civil or criminal), costs and expenses (including attorneys' fees) and demands (collectively, "Claims/Obligations") of every nature, kind and description whatsoever in law or in equity, whether known or unknown, or whether suspected or unsuspected, or whether matured or un-matured, whether liquidated or unliquidated, under any theory, including joint and several liability, which Owners had, now have, or hereafter can, shall or may have against CB&I or any of the other CB&I Released Parties arising out of any manner or event relating to, or otherwise in connection with or concerning, the EPC Claims, the EPC Agreement, the Project, the S&W Parent Guarantee and the CB&I Guarantee.

2. This Mutual Release is not in favor, and does not inure to the benefit, of S&W (being referred to herein as the "Excepted Party") and it being understood and acknowledged that any release in favor of S&W is solely as set forth in the Settlement Agreement. Except for the Excepted Party as defined in Paragraph 1 hereof, effective upon the Effective Time, CB&I, for itself and its respective officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries and affiliated entities (but only to the extent any such subsidiary or affiliated entity is a subsidiary or affiliated entity after the Effective Time), heirs, executors and administrators (collectively, the "CB&I Releasing Parties") and each of them, hereby unconditionally and irrevocably fully release, forever discharge and covenant not to sue, Owners and their past, present, and future officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries, and affiliated entities, heirs, executors and administrators (collectively, the "Owners Released Parties"), and each of them, from any and all manner of actions, controversies, suits, matters, liens, rights, liabilities, losses, debts, dues, damages, claims, guarantees, warranties, judgments, bonds, executions, obligations, accounts, fines, regulatory penalties (whether civil or criminal), costs and expenses (including

attorneys' fees) and demands (collectively, "Claims/Obligations") of every nature, kind and description whatsoever in law or in equity, whether known or unknown, or whether suspected or unsuspected, or whether matured or un-matured, whether liquidated or unliquidated, under any theory, including joint and several liability, which CB&I had, now have, or hereafter can, shall or may have against Owners or any of the other Owners Released Parties arising out of any manner or event relating to, or otherwise in connection with or concerning, the EPC Claims, the EPC Agreement, the Project, the S&W Parent Guarantee and the CB&I Guarantee.

3. This Mutual Release does not release any rights of S&W, the Excepted Party, it being understood and acknowledged that any release by S&W is solely as set forth in the Settlement Agreement.

4. Westinghouse and Owners have agreed that the Settlement Agreement will automatically become effective upon the closing of the purchase by Westinghouse or an affiliate of Westinghouse of all of the outstanding capital stock of S&W (such time of closing, the "Effective Time").

5. This Mutual Release and the application and interpretation thereof shall be governed exclusively by the laws of the State of New York without regard to conflicts of laws principles.

6. This Mutual Release shall be fully binding upon each Owner, CB&I and their respective legal representatives, successors and assigns.

7. The releases contemplated by Section 1 and 2 are intended to be as broad as permitted by law, provided that nothing in Section 1 or 2 shall apply to any action by any releasee to enforce the rights and obligations imposed by this Mutual Release. Without limiting the foregoing, for the avoidance of doubt, the releases contemplated by Section 1 and 2 are intended to, and do, extinguish suspected, unmatured, unliquidated and unknown Claims/Obligations even if, confirmation, maturation or knowledge of those Claims/Obligations on the date hereof would have affected the decision to enter into this Mutual Release. The release of suspected, unmatured, unliquidated or unknown Claims/Obligations was separately bargained for and was a key element of this Mutual Release, relied upon by each party in entering this Mutual Release. The Owner Releasing Parties and the CB&I Releasing Parties shall be deemed to have, and by execution of this Mutual Release shall have, expressly waived and relinquished, to the fullest extent permitted by law, any rights or benefits they may have under state law, federal law, foreign law or common law that may have the effect of limiting the release set forth in Section 1, including any rights or benefits conferred by Section 1542 of the California Civil Code or any provision similar, comparable or equivalent to Section 1542 or successor provision to Section 1542 of the California Civil Code, which provides that: A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

8. Each of the persons executing this Mutual Release on behalf of its respective principals warrants that he or she is legally entitled to enter into this Mutual Release and release the CB&I Released Parties and the Owner Released Parties from every claim and liability, whether potential or actual, herein referred to, and that he or she has the authority to bind his or her respective principals and has full authority to enter into this Mutual Release.

9. Owners and CB&I acknowledge and represent that they have each relied solely upon facts obtained from their own independent investigations in executing this Mutual Release and that they each have not relied upon any statements or representations of any nature from the parties to the Settlement Agreement or any other individuals or entities, or such other parties', individuals' or entities' attorneys or representatives. Each Owner and CB&I represent that they have had sufficient opportunity to consult their own legal counsel with regard to the negotiation and preparation, as well as the scope and effect, of this Mutual Release.

10. Owners and CB&I agree to execute any further documents necessary and take such other actions as to effectuate this Mutual Release.

11. This Mutual Release may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, Owners and CB&I execute this Release by their duly authorized representatives.

South Carolina Electric & Gas Company,
for itself and as agent for the South Carolina Public Service Authority

By KBMarsh

Title Chairman + CEO

Date October 27 2015

Chicago Bridge & Iron Company N.V.

By____________________

Title____________________

Date____________________

8. Each of the persons executing this Mutual Release on behalf of its respective principals warrants that he or she is legally entitled to enter into this Mutual Release and release the CB&I Released Parties and the Owner Released Parties from every claim and liability, whether potential or actual, herein referred to, and that he or she has the authority to bind his or her respective principals and has full authority to enter into this Mutual Release.

9. Owners and CB&I acknowledge and represent that they have each relied solely upon facts obtained from their own independent investigations in executing this Mutual Release and that they each have not relied upon any statements or representations of any nature from the parties to the Settlement Agreement or any other individuals or entities, or such other parties', individuals' or entities' attorneys or representatives. Each Owner and CB&I represent that they have had sufficient opportunity to consult their own legal counsel with regard to the negotiation and preparation, as well as the scope and effect, of this Mutual Release.

10. Owners and CB&I agree to execute any further documents necessary and take such other actions as to effectuate this Mutual Release.

11. This Mutual Release may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, Owners and CB&I execute this Release by their duly authorized representatives.

South Carolina Electric & Gas Company,
for itself and as agent for the South Carolina Public Service Authority

By______________________________

Title______________________________

Date______________________________

Chicago Bridge & Iron Company N.V.

By [signature]

Title EVP, Chief Legal Officer & Sec'y.

Date Oct 27, 2015

MUTUAL RELEASE

This Mutual Release is entered into this 27th day of October, 2015, and becomes effective as described herein, by and among Westinghouse Electric Company LLC, a Delaware limited liability company having a place of business in Cranberry, Pennsylvania ("Westinghouse"), CB&I Stone & Webster, Inc., a Louisiana corporation with a place of business in Charlotte, North Carolina ("S&W"), and South Carolina Electric & Gas Company ("SCE&G"), for itself and as agent for the South Carolina Public Service Authority, a body corporate and politic created by the laws of South Carolina ("Santee Cooper") (collectively "Owners"). Westinghouse, S&W and Owners may be referred to individually as "Party" or collectively as "Parties."

RECITALS

WHEREAS, Owners and a consortium consisting of Westinghouse and S&W (collectively "Contractor") entered into an Engineering, Procurement and Construction Agreement on May 23, 2008 ("EPC Agreement") pursuant to which Contractor agreed to design and construct two new nuclear electrical generating units known as V.C. Summer Units 2 and 3 (the "Units") located at the V.C. Summer Nuclear Generating Station in Jenkinsville, South Carolina (the "Project");

WHEREAS, Contractor has submitted various notices of Change and Change Dispute Notices pursuant to the EPC Agreement that remain unresolved and various commercial issues, Change Disputes and Claims (as defined in the EPC Agreement) are pending under the EPC Agreement (collectively, "EPC Claims");

WHEREAS, Owners and Westinghouse are entering into a binding Amendment Agreement ("October 2015 Amendment") with respect to, among other things, the EPC Claims;

WHEREAS, a Westinghouse affiliate, Chicago Bridge & Iron Company N.V. ("CB&I"), and S&W are entering into a Stock Purchase Agreement pursuant to which, among other things, Westinghouse or an affiliate of Westinghouse will purchase all of the outstanding capital stock of S&W (the "SPA");

WHEREAS, upon the execution the SPA, Westinghouse shall execute this Mutual Release on its own behalf, and upon the consummation of the SPA (the "Effective Time") shall cause S&W to execute this Mutual Release on behalf of S&W; and

WHEREAS, upon execution of this Mutual Release by Westinghouse and S&W, this Mutual Release shall become effective as of the Effective Time, and in the event the SPA is not consummated, this Mutual Release shall not become effective and shall be null and void in all respects.

NOW, THEREFORE, in consideration of the recitals and the mutual promises, covenants and agreements contained in the October 2015 Amendment and herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, Owners, Westinghouse and S&W hereby provide mutual releases as follows.

RELEASE

1. Except as otherwise provided in the October 2015 Amendment (including Exhibit C to the October 2015 Amendment), upon the Effective Time, Owners, for themselves and their respective officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries and affiliated corporations, heirs, executors and administrators and each of them, hereby unconditionally and irrevocably fully release, forever discharge and covenant not to sue Westinghouse, S&W and their past, present, and future officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries, and affiliated corporations, and each of them, from any and all manner of actions, controversies, suits, liens, losses, debts, dues, damages, claims, attorney fees, guarantees, warranties, judgments, bonds, executions and demands of every nature, kind and description whatsoever in law or in equity, whether known or unknown, or whether suspected or unsuspected, or whether matured or unmatured, whether liquidated or unliquidated, under any theory, including joint and several liability, which Owners had, now have, or hereafter can, shall or may have against Westinghouse and/or S&W for any events or circumstances occurring as of the Effective Time and arising out of any manner or event relating to, or otherwise in connection with or concerning, the EPC Claims, the EPC Agreement and the Project.

2. Except as otherwise provided in the October 2015 Amendment (including Exhibit C to the October 2015 Amendment), upon the Effective Time, Westinghouse and S&W, for themselves and their respective officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries and affiliated corporations, heirs, executors and administrators and each of them, hereby unconditionally and irrevocably fully release, forever discharge and covenant not to sue Owners and their past, present, and future officers, agents, directors, partners, managing members, stockholders, owners, employees, attorneys, advisors, representatives, insurers, sureties, predecessors, successors, assigns, parents, subsidiaries, and affiliated corporations, and each of them, from any and all manner of actions, controversies, suits, liens, losses, debts, dues, damages, claims, attorney fees, guarantees, warranties, judgments, bonds, executions and demands of every nature, kind and description whatsoever in law or in equity, whether known or unknown, or whether suspected or unsuspected, or whether matured or unmatured, whether liquidated or unliquidated, under any theory, including joint and several liability, which Westinghouse and/or S&W had, now have, or hereafter can, shall or may have against Owners for any events or circumstances occurring as of the Effective Time and arising out of any manner or event relating to, or otherwise in connection with or concerning, the EPC Claims, the EPC Agreement and the Project.

3. This Mutual Release and the application and interpretation thereof shall be governed exclusively by the laws of the State of New York without regard to conflicts of laws principles.

4. This Mutual Release shall be fully binding upon Owners, Westinghouse and S&W and their respective legal representatives, successors and assigns.

5. Each of the persons executing this Mutual Release on behalf of their respective principals warrants that he or she is legally entitled to enter into this Mutual Release and release every claim and liability, whether potential or actual, herein referred to, and that he or she has the authority to bind his or her respective principals and has full authority to enter into this Mutual Release.

6. Owners, Westinghouse and S&W acknowledge and represent that each has had sufficient opportunity to consult its own legal counsel with regard to the negotiation and preparation, as well as the scope and effect, of this Mutual Release.

7. Owners, Westinghouse and S&W agree to execute any further documents necessary and take such other actions as to effectuate this Mutual Release.

8. This Mutual Release may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties execute this Mutual Release by their duly authorized representatives.

Westinghouse Electric Company LLC	**CB&I Stone & Webster, Inc.**
By [signature]	By
Title President & Chief Executive Officer	Title
Date October 27, 2015	Date

South Carolina Electric & Gas Company, for itself and as agent for the South Carolina Public Service Authority

By [signature]

Title Chairman · CEO

Date October 27 2015

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Westinghouse Electric Company LLC

By [signature]

Title President & Chief Executive Officer

Date October 27, 2015

CB&I Stone & Webster, Inc.

By [signature]

Title President

Date 12/31/15

South Carolina Electric & Gas Company, for itself and as agent for the South Carolina Public Service Authority

By [signature]

Title Chairman - CEO

Date October 27 2015